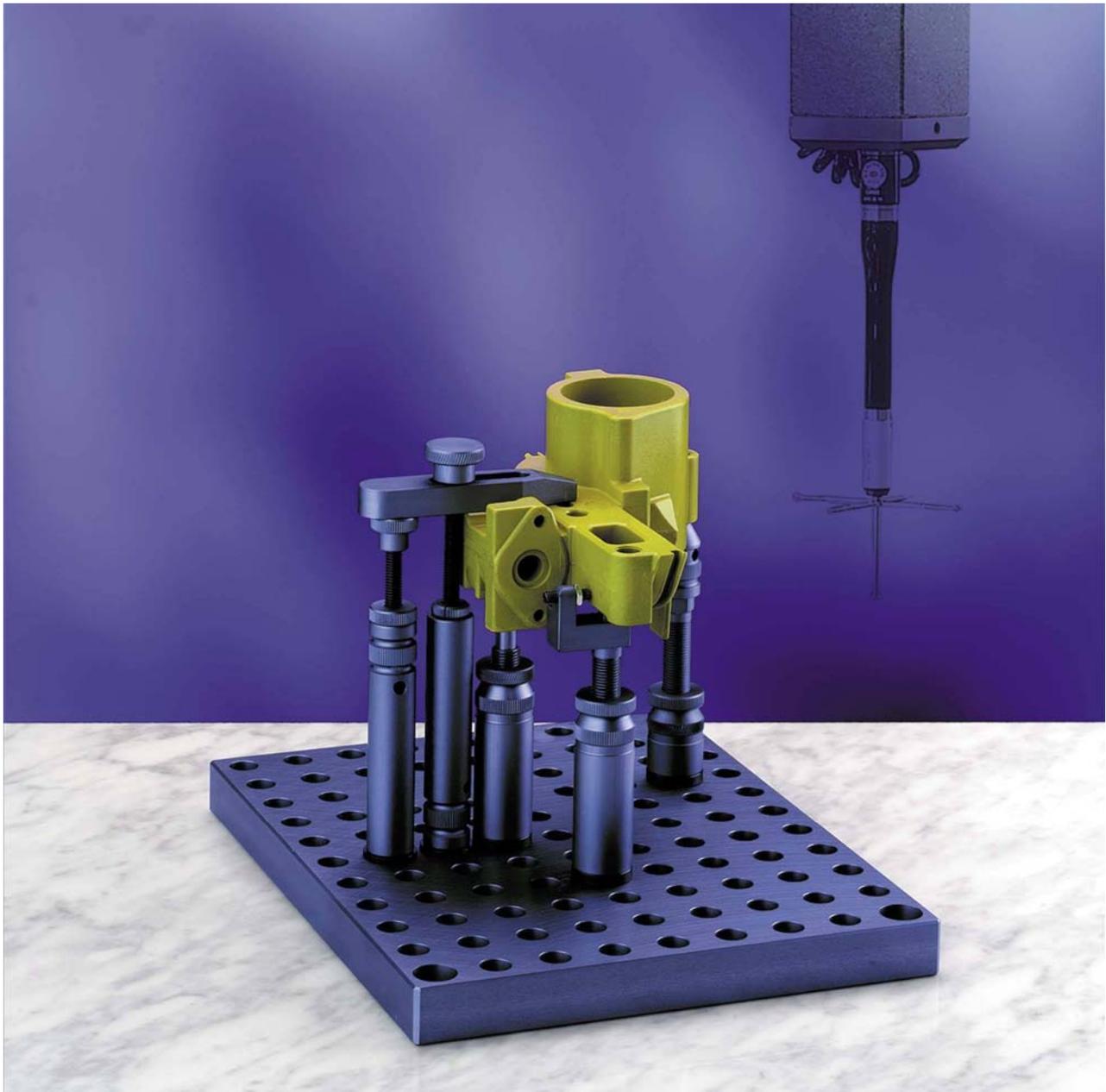


ALUMESS

Chucking and palletizing system for measuring machines



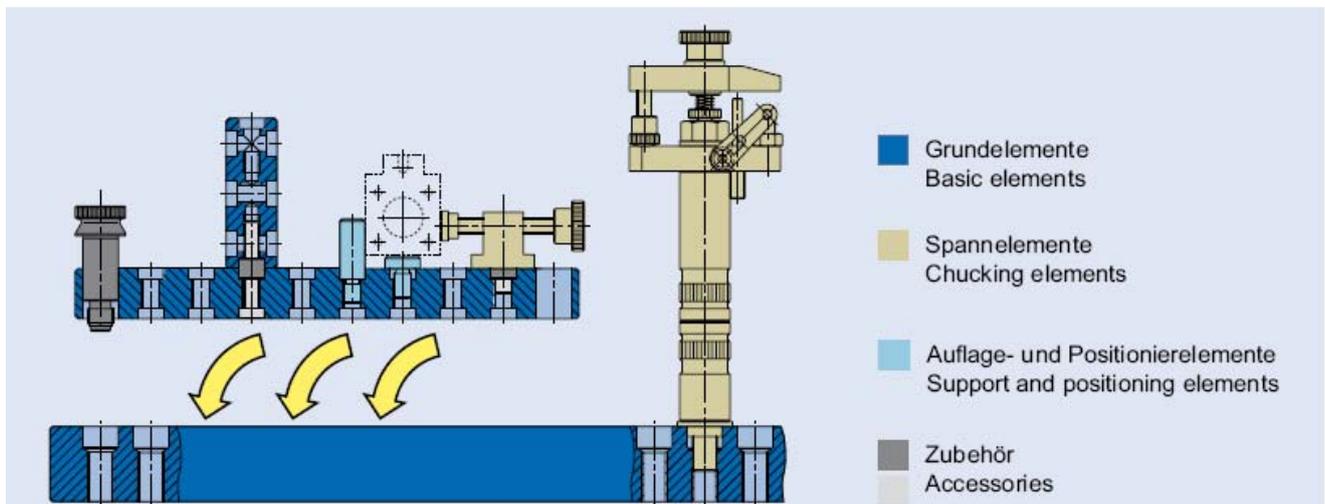
Flexible

Strong

Reproducable

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>> Easy, rapid and economical

The ALUMESS chucking and palletizing system consists of various modules which can be easily, rapidly and economically combined to chucking devices with reproducible registration.

>> Flexible

The system is mainly designed for flexible use on coordinate measuring machines. It can also be used for production of samples or prototypes, laser inscription, laser processing or as mounting device.

>> Strong

The basic modules will be screwed together and build up a strong compound. By means of the space saving construction of all the components, optimal accessing of all the measuring points is achieved.

>> Reproducible

Position holes in the pallets, plates, rails and angles as well as a wide range of support, positioning and stop modules allow a reproducible registration of any clamping device.

Pattern asset: 20 mm

Positioning diameter: Ø10 H8

Clamping thread: M6

In the basic plates

Positioning diameter: Ø14 H8

Clamping thread: M10



>> Palletizable

Dowel screws are used for rapid and easy fixing of the clamping pallets on the basic plate which is mounted on the measuring machine. This reduces the preparation time to a minimum. Clamping devices are mounted on the pallets outside the machine. This increases the efficiency of the measuring machine. By mounting several pallets on the basic plate, the efficiency is even more increased. Fully equipped basic plates can be measured at night without the supervision of a person.

Finish of the modules:

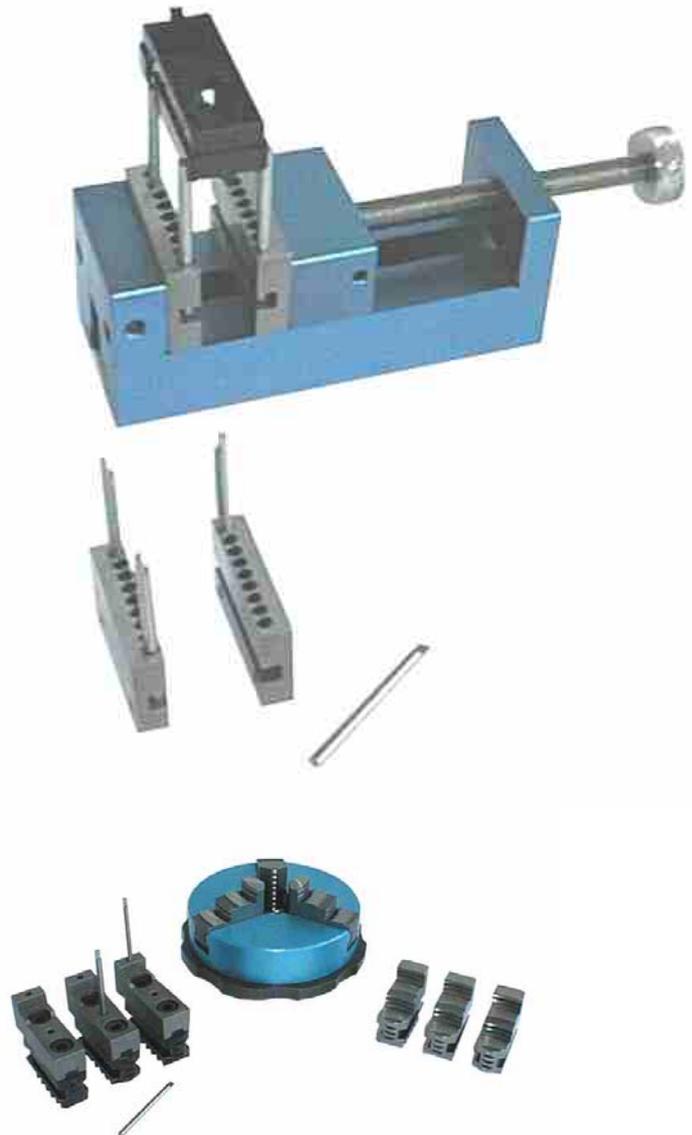
Most of the modules are manufactured of high-strength aluminium and they are anodized afterwards. The basic plates are delivered with a hard coated finish. You can get all modules with this surface protection on request. Steel accessories are supplied in high quality corrosion resistant finish.

Planning and documentation

If required, a CAD-library will be available for planning and documentation of clamping units.

The entrance

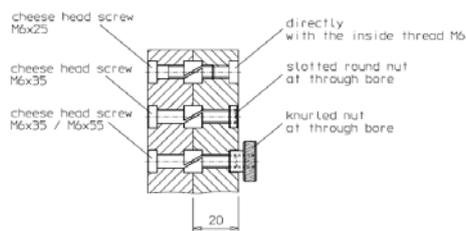
Several entrance-sets which are upgradeable are available for the quick entrance into the ALUMESSSystem. Please ask for our complete documents and a free specialist counselling.



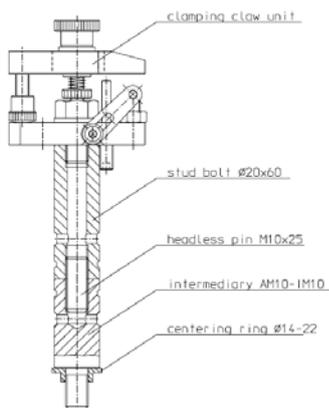
Universal chucking system

The Universal chucking system is a modular chucking kit based on a system of holes offered with three different modular dimensions. Various basic, chucking and support modules can be logically combined to devices adequate to the application using detachable connections. The Universal chucking system is designed for production of individual parts or small lots, with multiple chucking also for industrial scale manufacture. The possibility of reuse of the modules guarantees flexible and cost-saving application of the Universal chucking system.

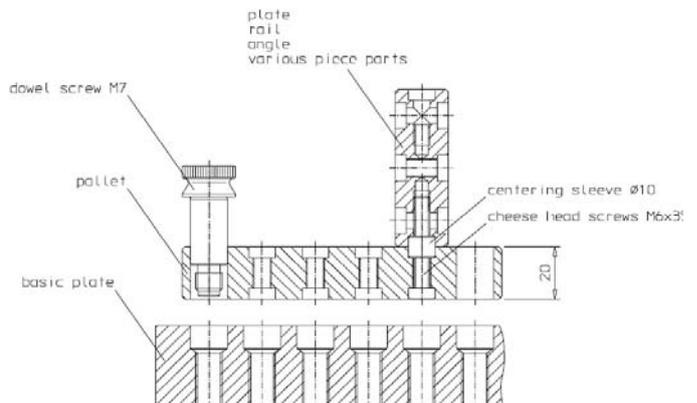
Possibilities of connection:
Connection of pallets, plates and rails



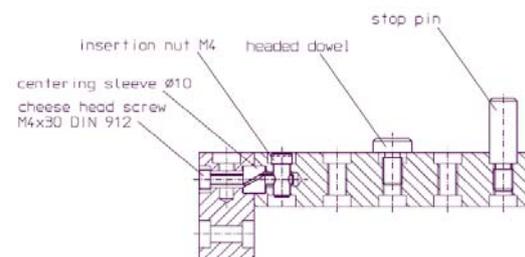
Chuckling unit screwed directly
to basis plate



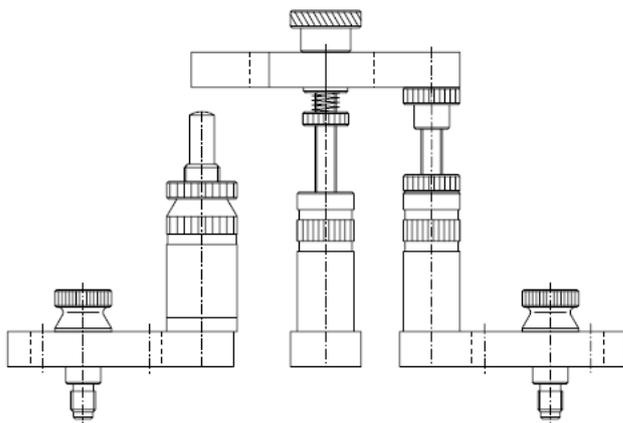
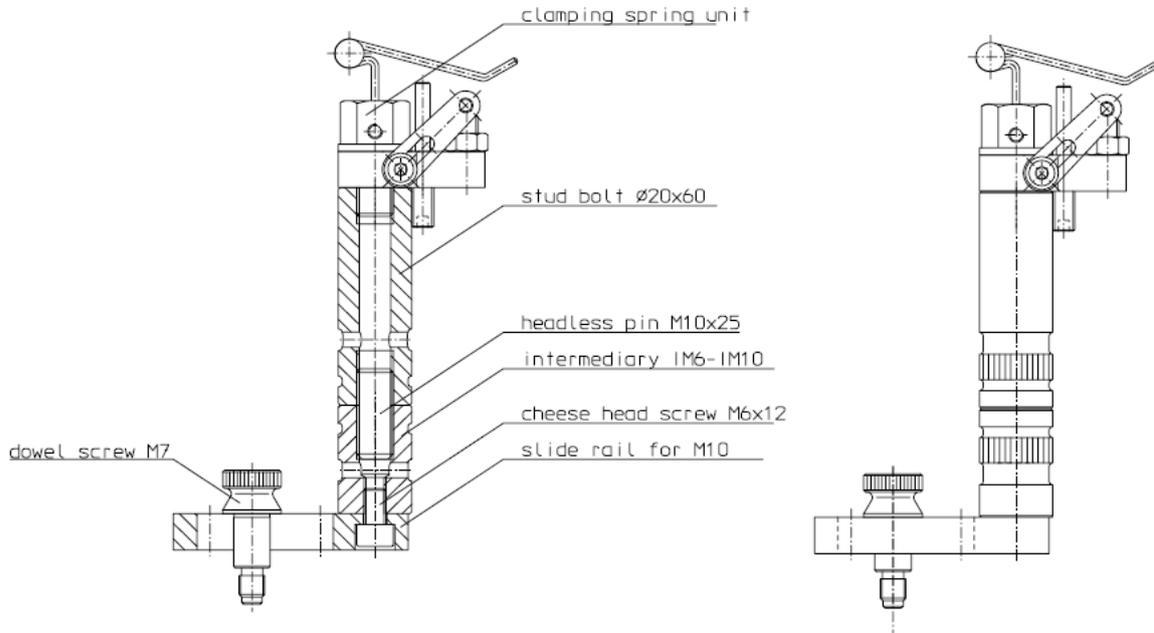
Possibility of connection:
Pallet on basic plate



Possibility of connection:
Based on pallets, plates and rails

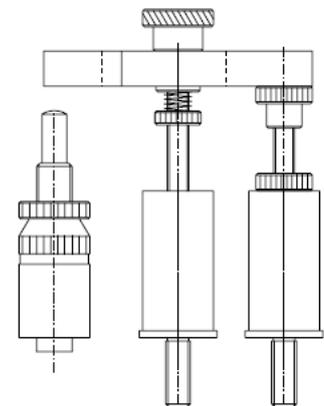


Chucking unit with
slide rail



workpiece support
with slide rail

clamping claw support
with slide rail



workpiece support with
clamping claw support
screwed directly to pallet

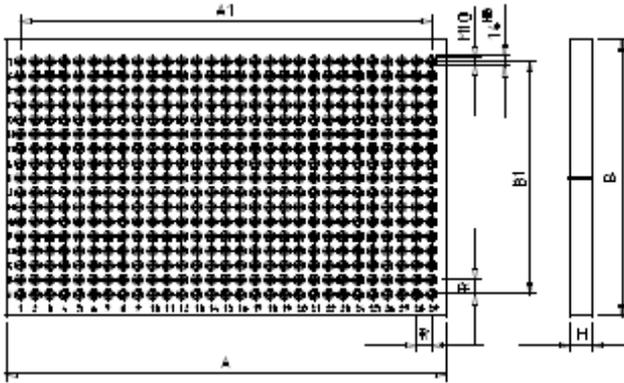


Pos.:	Quantity:	Description:
1	1 piece	Pallet 220x180x20
2	2 pieces	Stud bolt \varnothing 16x80
3	2 pieces	Eccentric ring \varnothing 10-18
4	1 piece	Receiver - M10x1 24mm
5	2 pieces	Receiver - M10x1 54mm
6	1 piece	Supporting pin - M10x1 50mm
7	1 piece	Supporting pin x stop - M10x1
8	1 piece	Receiver M6 - M10x1
9	1 piece	Cone \varnothing 16
10	1 piece	Clamping claw 76mm
11	1 piece	Cap screw M6x20
12	4 piece	Cap screw M6x25
13	1 piece	Knurled screw M6x55
14	1 piece	Supporting screw M6
15	1 piece	Knurled nut M6
16	3 pieces	Plastic washer \varnothing 20x2

Pos.:	Quantity:	Description:
1	1 piece	Pallet 360x220x20
2	1 piece	Rail 100x20x20
3	2 pieces	Rail 120x20x20
4	6 pieces	Stud bolt \varnothing 16x30
5	6 pieces	Stud bolt \varnothing 16x80
6	6 pieces	Eccentric ring \varnothing 10-18
7	3 pieces	Receiver - M10x1 54mm
8	3 pieces	Supporting pin - M10x1 75mm
9	3 pieces	Clamping claw 76mm
10	3 pieces	Centering sleeve \varnothing 10
11	6 pieces	Threaded pin M6x20
12	9 pieces	Cap screw M6x25
13	3 pieces	Cap screw M6x35
14	6 pieces	Knurled screw M6x55
15	3 pieces	Supporting screw M6
16	9 pieces	Knurled nut M6

Basic plate, grid location pattern 20-M10:





A [mm]	B [mm]	A1 [mm]	B1 [mm]	H [mm]	R [mm]
1000	760	960	720	25	20
1000	500	960	460	25	20
600	500	560	460	25	20
500	500	460	460	25	20
500	400	460	360	25	20

further model on request

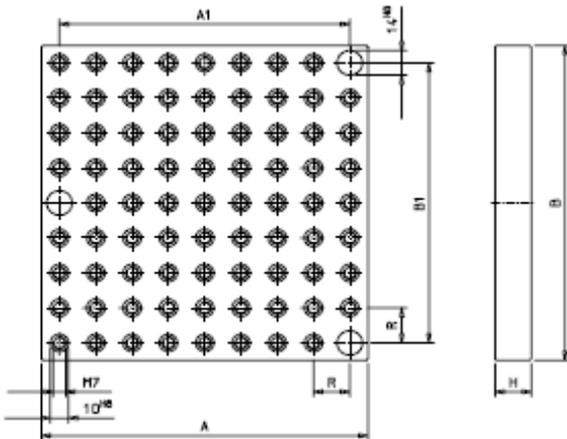
Description:

The basic plate with grid location pattern is the basic module of the system. Dowel screws are used to fix the clamping plates.

Material:

high-strength aluminium, hard coated

Pallet, grid location pattern 20-M6(M7):

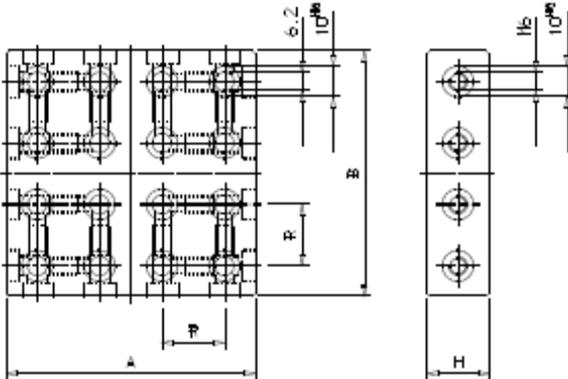


A [mm]	B [mm]	A1 [mm]	B1 [mm]	H [mm]	R [mm]
500	300	480	280	20	20
360	220	340	200	20	20
220	180	200	160	20	20
180	180	160	160	20	20
120	120	100	100	20	20

Description:

The pallet with grid location pattern is the basic module of the system.

Plate:

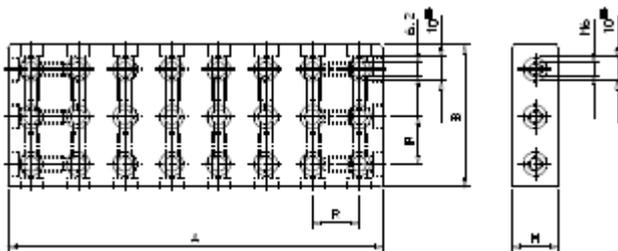


A [mm]	B [mm]	H [mm]	R [mm]
80	80	20	20
60	60	20	20
40	40	20	20

Description:

The plate with grid location pattern is the basic module of the system. Centering sleeve and cap screw are used to position and fix it on the various basic modules.

Rail:

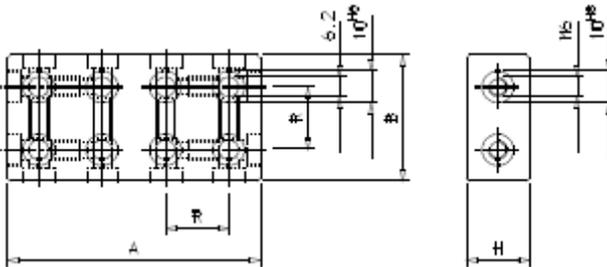


A [mm]	B [mm]	H [mm]	R [mm]
1000	60	20	20
760	60	20	20
500	60	20	20
400	60	20	20
360	60	20	20
300	60	20	20
260	60	20	20

Description:

The rail with grid location pattern is the basic module of the system. Centering sleeve and cap screw are used to position and fix it on the various basic modules.

Rail:

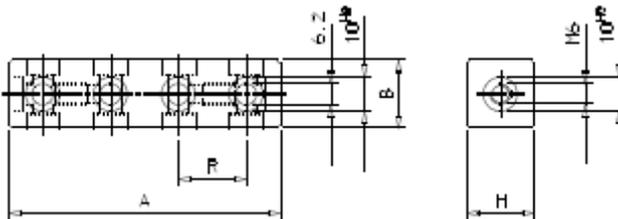


A [mm]	B [mm]	H [mm]	R [mm]
760	40	20	20
500	40	20	20
300	40	20	20
220	40	20	20
180	40	20	20
160	40	20	20
120	40	20	20
80	40	20	20

Description:

The rail with grid location pattern is the basic module of the system. Centering sleeve and cap head screw are used to position and fix it on the various basic modules.

Rail:

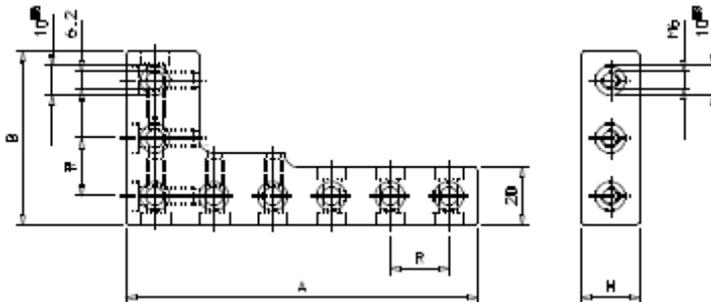


A [mm]	B [mm]	H [mm]	R [mm]
500	20	20	20
300	20	20	20
220	20	20	20
180	20	20	20
160	20	20	20
120	20	20	20
80	20	20	20
40	20	20	20

Description:

The rail with grid location pattern is the basic module of the system. Centering sleeve and cap screw are used to position and fix it on the various basic modules.

Angle:

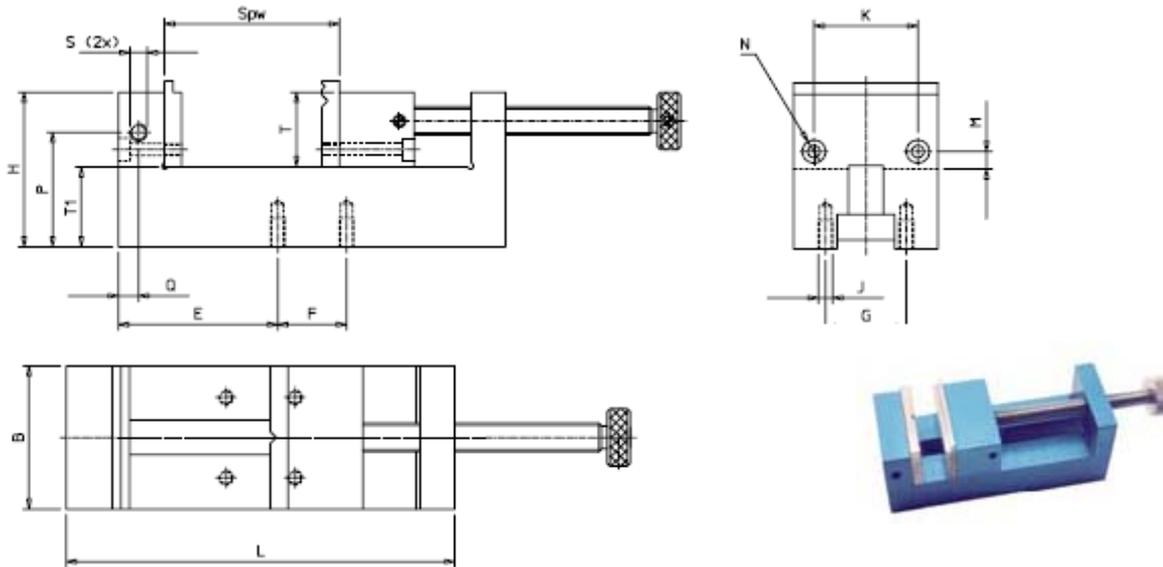


A [mm]	B [mm]	H [mm]	R [mm]
180	80	20	20
120	60	20	20

Description:

The angle with bores is the basic module of the system. Centering sleeve and cheese head screw are used to position and fix it o the various basic modules.

Spindle vice SP AL:



Type	Spw	L	B	H	T	T1	E	F	G	J	K	M	N	P	Q	S
SP 25 AL	26	60	25	30	16	14	21	18	18	M4	16	5	for M3	-	-	-
SP 32 AL	40	78	32	38	20	18	27	24	24	M5	22	6	for M4	-	-	-
SP 50 AL	81	135	50	54	26	28	55,5	24	28	M5	36	6	for M4	40	7	M6

Description:

The spindle vice is the universal clamping module of the kit. Various accessories are available for use in the measuring and test laboratory or on the coordinate measuring machine.

Material:

High-strength aluminium

Finish:

Anodized

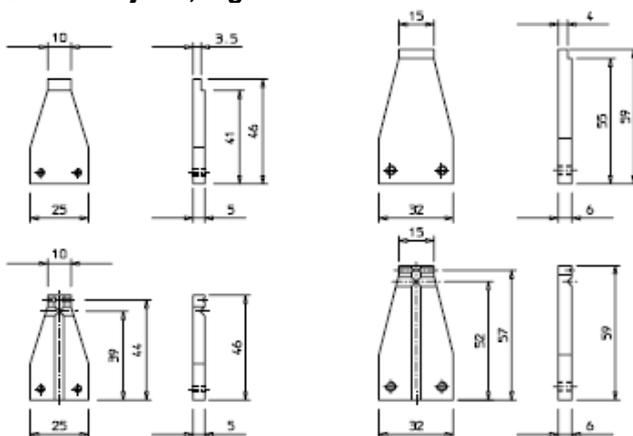
Features:

Operation: mechanical

Volume of supply:

Spindle vice
1 pair of hardened universal jaws

Universal jaws, high:



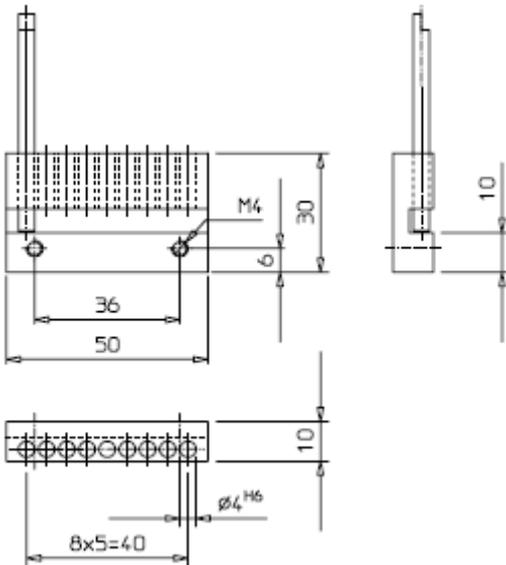
Description:

Universal clamping jaws set for spindle vice SP 25 AL, SP 32 AL.

Material:

Steel

Clamping jaws with receiver pins:



Description:

Use the clamping jaws with receiver pins for easy and quick fixing of work pieces especially for injection molded parts. They enable a 6-side measuring with a SP 50 AL.

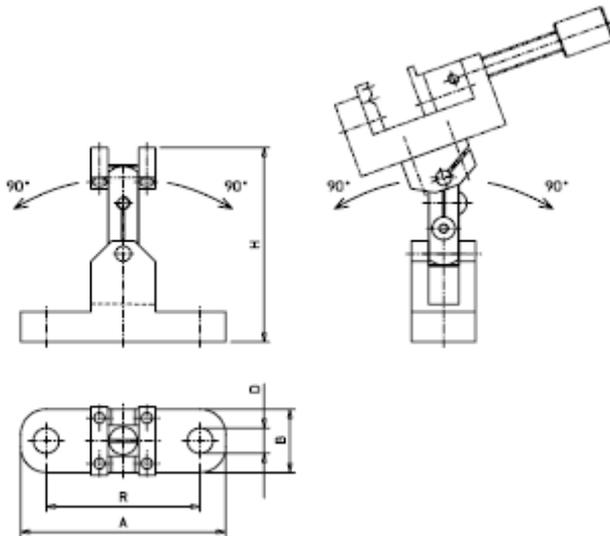
Material:

Steel

Volume of supply:

1 pair of receiver pins set off $\phi 4 \times 55 \text{ mm}$ (4 pieces)

Hinged foot:



A [mm]	B [mm]	H [mm]	R [mm]	D [mm]
80	25	77	60	10H8
80	32	88	60	10H8
100	40	103	80	14H8

Description:

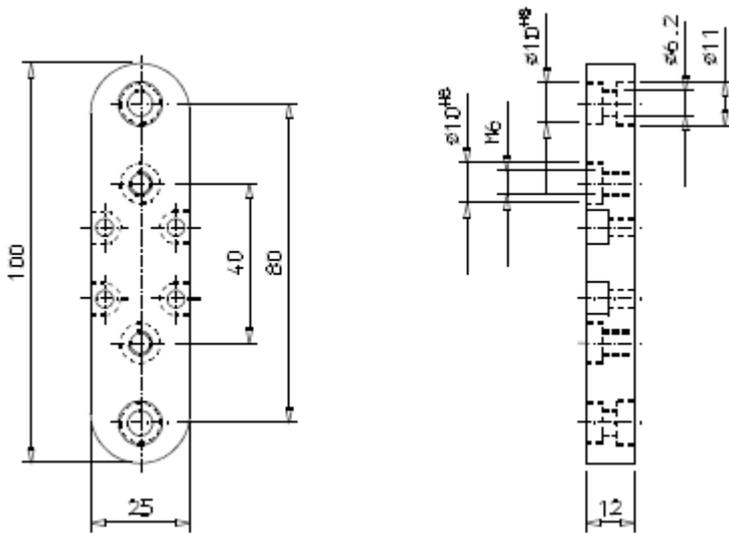
Hinged foot for spindle vice SP AL / clamping chuck.

Volume of supply:

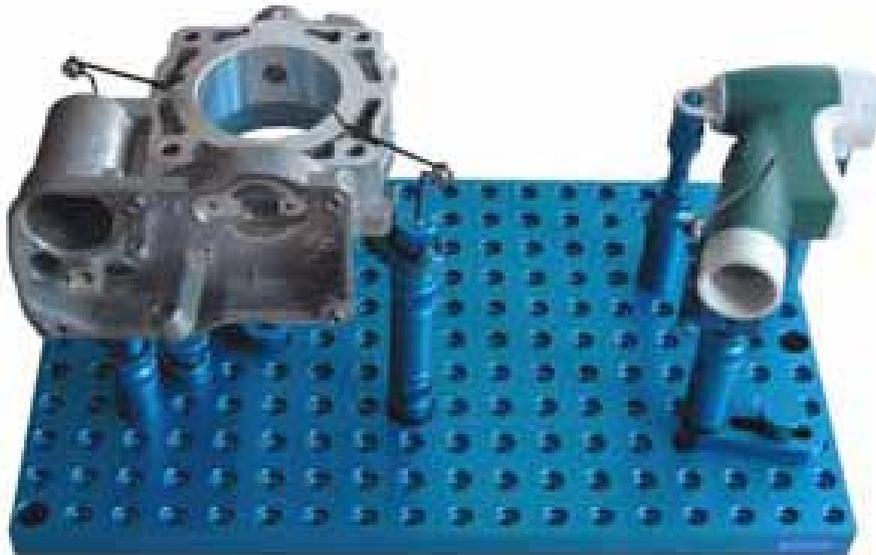
Hinged foot
4 pieces of fixing screws

Receiver rail:

Description:

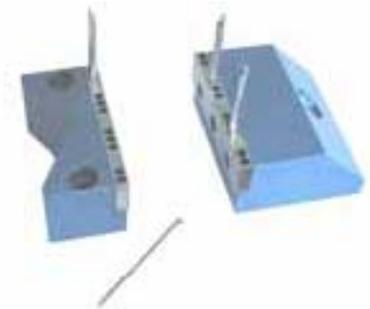
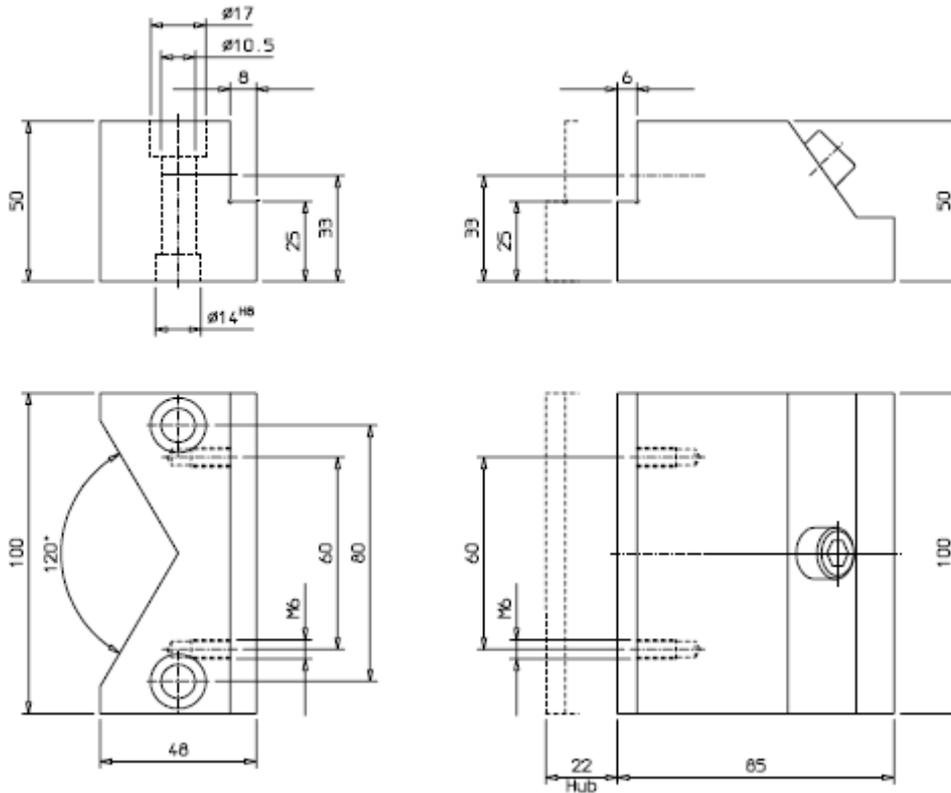


Receiver rail for spindle vice SP 25 AL. For fixing the vice on the basic modules i.e. rails and angles.



Pull down fixture

Fixed block with 120° prism:



Description:

The pull down fixture and the fixed block are used directly on the basic plate. Together, they are a universal clamping element in the system. The available receiver pins can be used as a work piece support in higher position.

Volume of supply:

Pull down fixture:

- 1 set of fixing material
- 1 piece of hardened clamping jaws

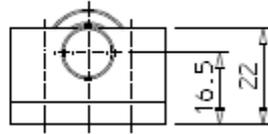
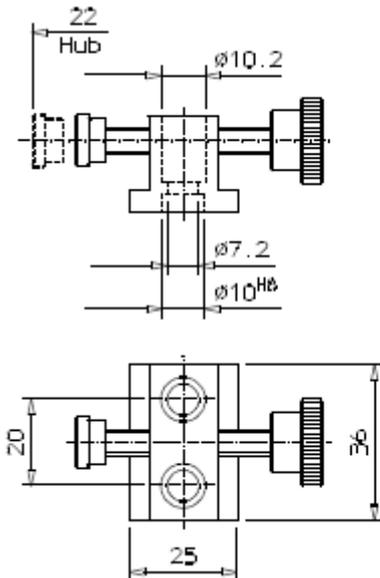
Fixed block

- 2 pieces of centering sleeves $\varnothing 14$
- 2 pieces of cap screws M10x55
- 1 piece of hardened clamping jaws

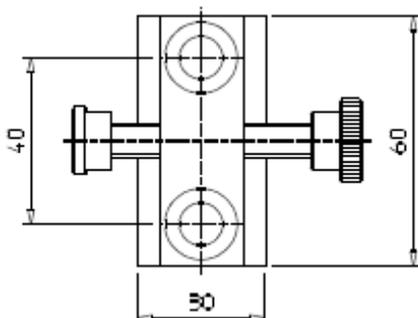
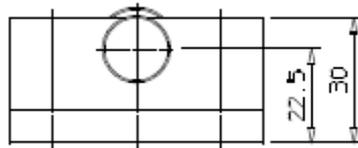
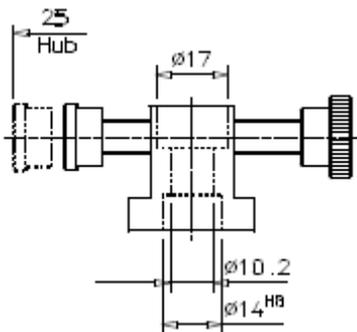
Option:

- 1 set of receiver pins set down $\varnothing 5 \times 80$ mm (4 pieces)

Clamping block for pallet:



Clamping block for basic plate:



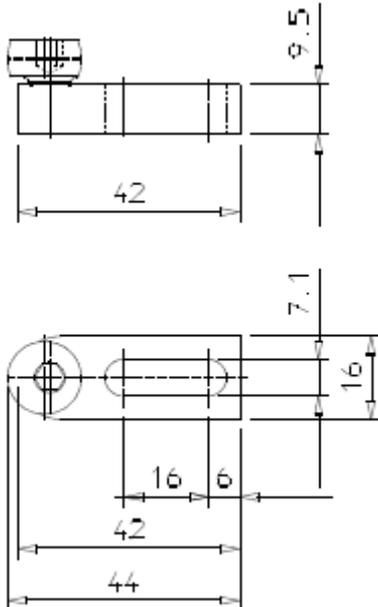
Description:

The clamping block is on the grid location pattern as clamping module universal useable. Together with the receiver and stop pins it can be used for a quick and easy clamping of work pieces to the given dead stop.

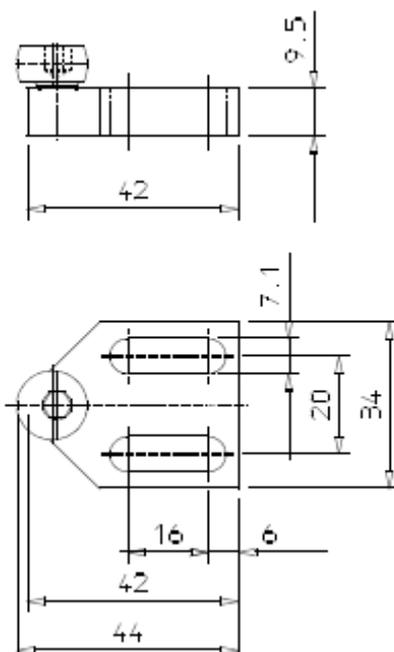
Volume of supply:

Clamping block
2 pieces of centering sleeves
2 pieces of cap screws

Eccentric clamping fixture 16-M6 AL:



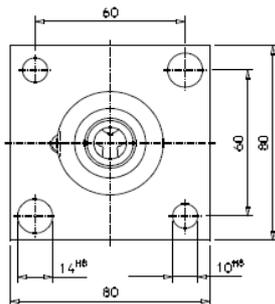
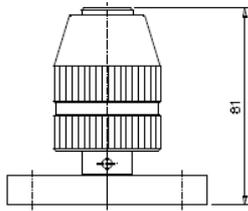
Eccentric clamping fixture 34-M6 AL:



Description:

The eccentric clamping fixture is used as a quick and easy clamping module in the clamping kit. Because of the slot hole any position between the grid location pattern can be reached. It is used together with the receiver and stop pins.

Drill chuck on basic plate:



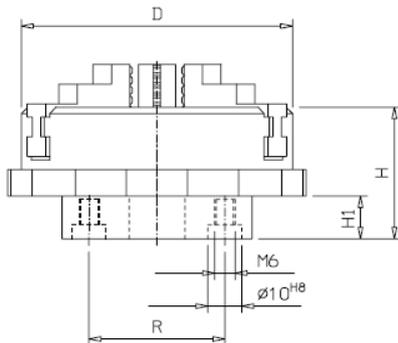
Description:

The drill chuck on the basic plate is intended for central clamping of round work pieces. Dowel screws are used to fix it on the basic modules.

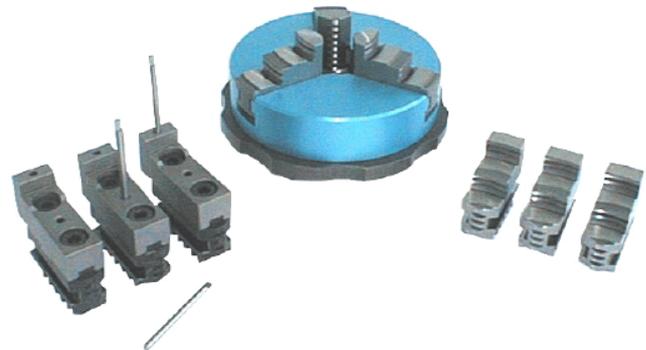
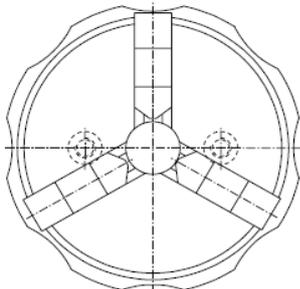
Volume of supply:

Drill chuck Ø1-13mm
Receiver bolt
Basic plate 80x80x12

Clamping chuck:



Spannfutter 80
zusätzliche Befestigungsbohrungen
für Gelenkfuß 100x32mm



Description:

The clamping chuck is intended for central clamping of round work pieces. Dowel screws are used to fix it on the basic modules.

Volume of supply:

Clamping chuck
2 sets of clamping jaws

Options:

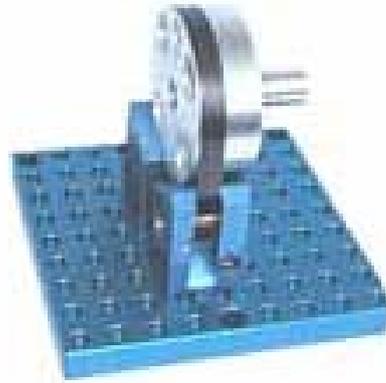
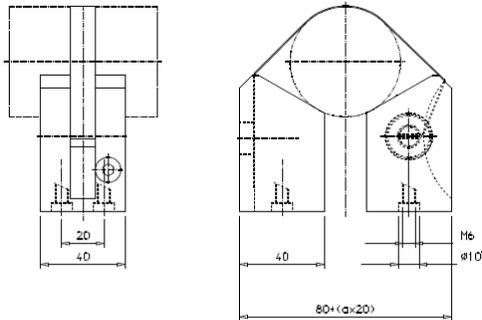
Basic jaws for interchangeable jaws
Aluminium interchangeable jaws
Interchangeable jaws with location pins

Remark:

Fixing material please refer to pages 4.7 and 4.8.

D [mm]	H [mm]	H1 [mm]	R [mm]
80	40	13	40
100	43	13	40
125	56	17	80

model for 2- and 4-jaw chuck on request



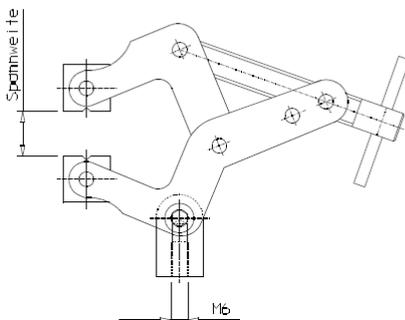
Description:

Taut tape clamping fixture for the reception and clamping of round work pieces.

Volume of supply:

Taut tape clamping fixture
4 pieces of centering sleeves $\varnothing 10$
4 pieces of cap screws M6x25
3m flat tape 10x0.55mm

Clamping hand:

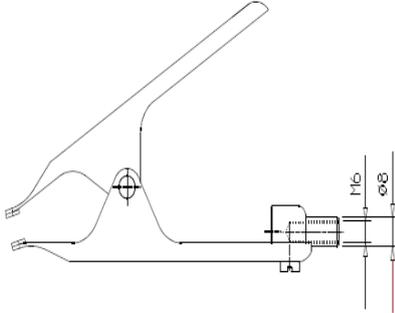


Typ	Opening capacity [mm]
Clamping hand 25	25
Clamping hand 50	50

Description:

Clamping hand with solid construction for quick and safe clamping within the opening capacity. It can be combined with various accessories with connection screw thread M6.

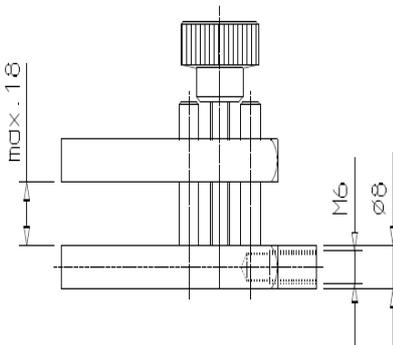
Spring clamp:



Description:

Spring clamp with high clamping capacity. It can be combined with various accessories with connection screw thread M6.

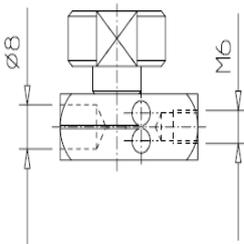
Parallel fixture:



Description:

Small / light work pieces are held by the jaws of the parallel fixture by adjusted parallel aluminium jaws. The parallel fixture can be combined with various accessories with a connection screw thread M6.

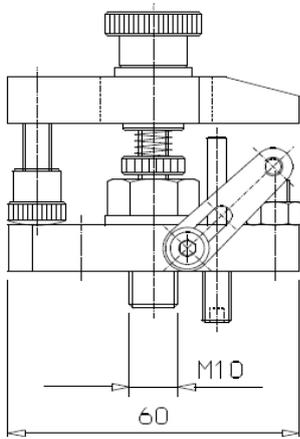
Quick change clamping fixture:



Description:

Quick change clamping fixture for quick and universal reception of spring clamp and parallel fixture. It can be combined with various accessories with connection screw thread M6.

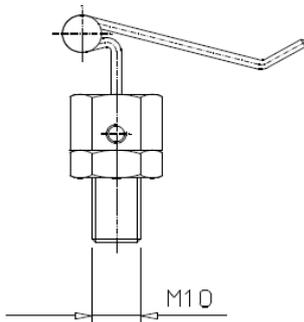
Clamping claw unit:



Description:

Clamping claw unit for clamping and positioning of work pieces in X, Y and Z.

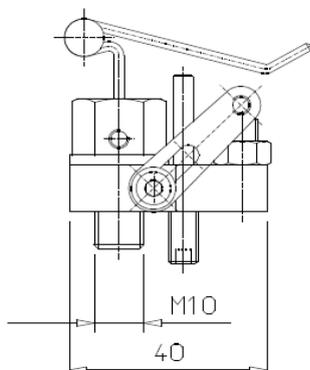
Clamping spring module:



Description:

Clamping spring module for quick and easy clamping of work pieces in connection with supporting and positioning modules.

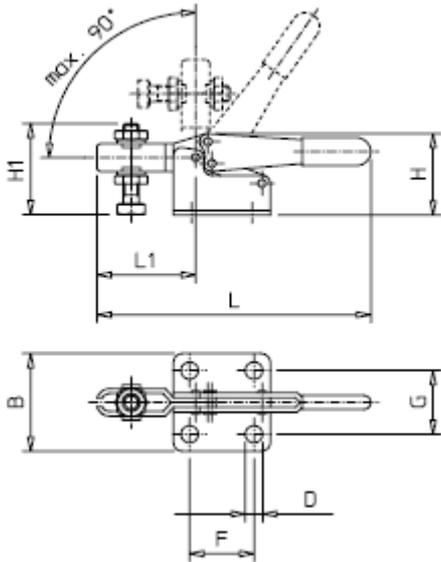
Clamping spring unit:



Description:

Clamping spring unit for quick and easy clamping and positioning of work pieces in X, Y and Z.

Toggle lever clamping device:

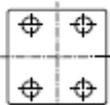
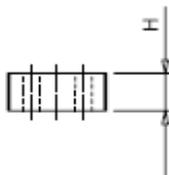


Description:

Toggle lever clamping device for quick clamping or positioning of work pieces. Clamping lever and clamping arm are moving in opposite direction. The clamping force is adjustable.

Type	L [mm]	B [mm]	H [mm]	L1 [mm]	H1 [mm]	D [mm]	F [mm]	G [mm]
HS 25	68	24,5	20,5	24,5	23	4,2	16	16
HS 70	108	26	37	48	41	4,2	14	17

Supporting plate:

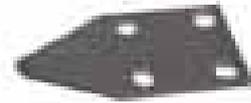
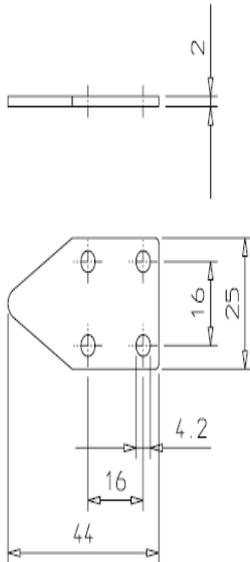


Description:

Supporting plate as substructure in connection with toggle lever clamping device HS.

H [mm]	Use with
10	HS 70
20	HS 70

Supporting plate:



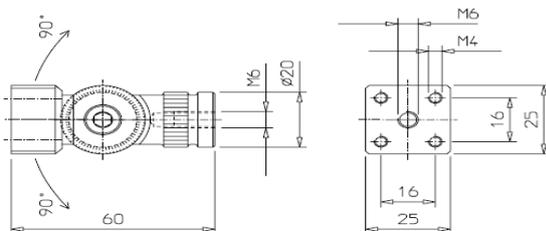
Description:

The supporting plate can be used as an additional height positioning for the work piece. It is mounted under the toggle joint clamping device.

Material:

Steel

Receiver for joint:

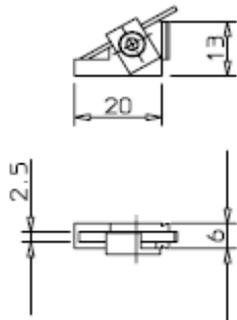


Mounting example

Description:

First of all the receiver for joint has been chosen for the positioning of toggle lever clamping device on the work piece. It can be combined with different construction elements with connection screw thread M6. The 5/ tothing is used for form-fitting and reproducible connection of both half cups.

Spring clamping fixture FS 6:



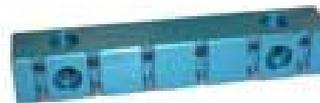
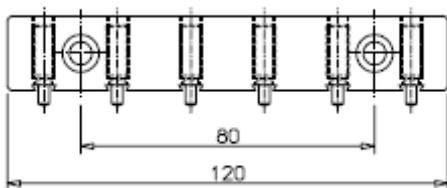
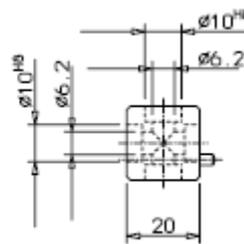
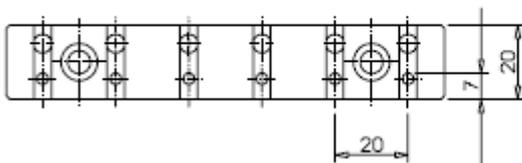
Description:

The spring clamping fixture is specially used for the reception of small structural parts. A reproducible work piece positioning can be made by a negative form of the structural part on the spring clamping fixture.

Material:

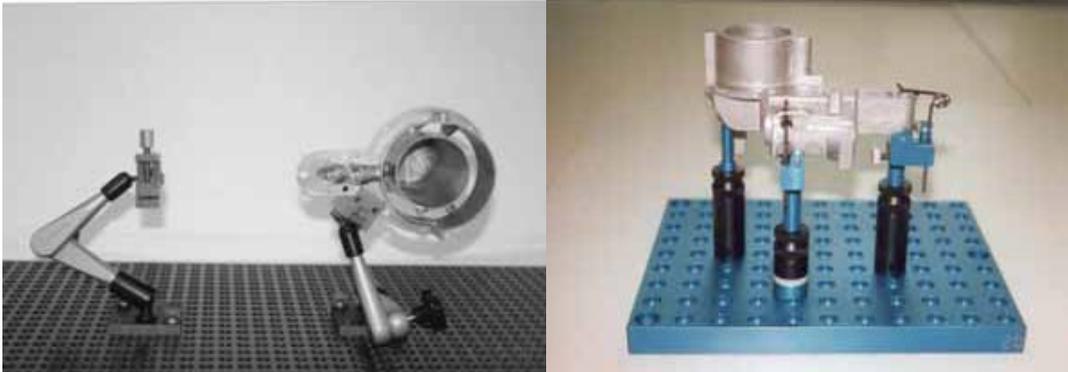
Steel

Receiver rail FS 6:

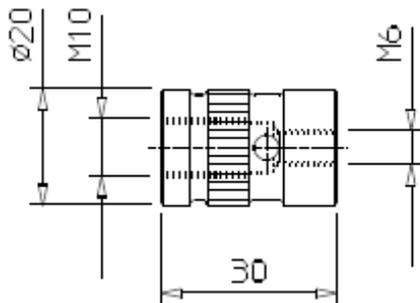


Description:

Receiver rail together with spring clamping fixture. It can be positioned and screwed by centering sleeves and cap screws on different basic modules.



Intermediary $\varnothing 20$ IM6-IM10:



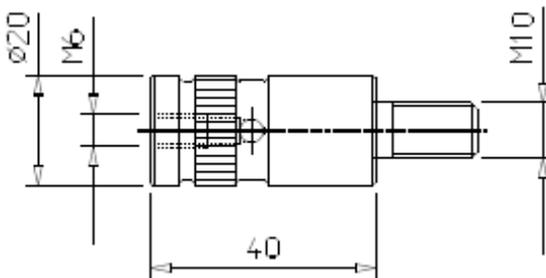
Description:

Intermediary for reception of the stud bolts on the basic modules.

Remark:

Mounting example please refer to pages 6 and 7.

Intermediary $\varnothing 20$ AM10-IM6:



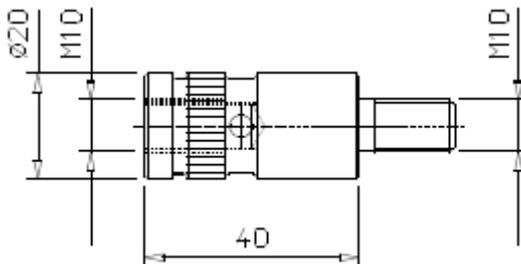
Description:

Intermediary for reception of the stud bolts on the basic plate.

Remark:

Mounting example please refer to pages 6 and 7.

Intermediary $\varnothing 20$ AM10-IM10:



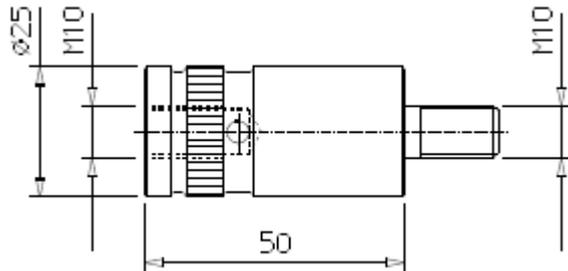
Description:

Intermediary for reception of the stud bolts on the basic plate.

Remark:

Mounting example please refer to pages 6 and 7.

Intermediary $\varnothing 25$ AM10-IM10:



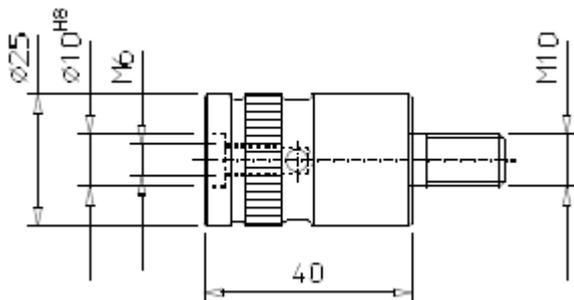
Description:

Intermediary for reception of the stud bolts $\varnothing 25$ on the basic plate.

Remark:

Mounting example please refer to pages 6 and 7.

Intermediary $\varnothing 25$ AM10-IM6P:



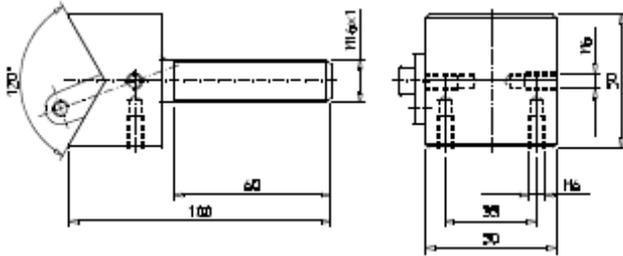
Description:

Intermediary as substructure in connection with receiver M10x1.

Remark:

Mounting example please refer to pages 6 and 7.

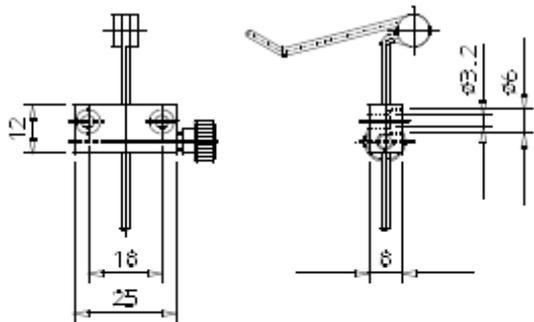
Prism 120° - M16x1:



Description:

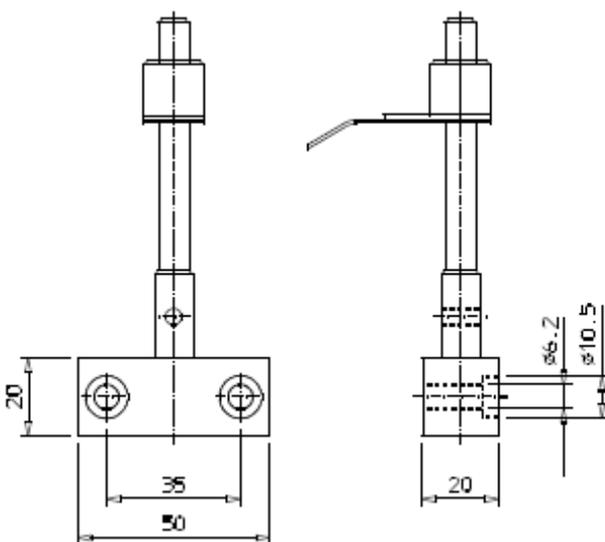
Prism 120° for receiving round work pieces. For use with receiver - M16x1

Spring retainer:



Description:

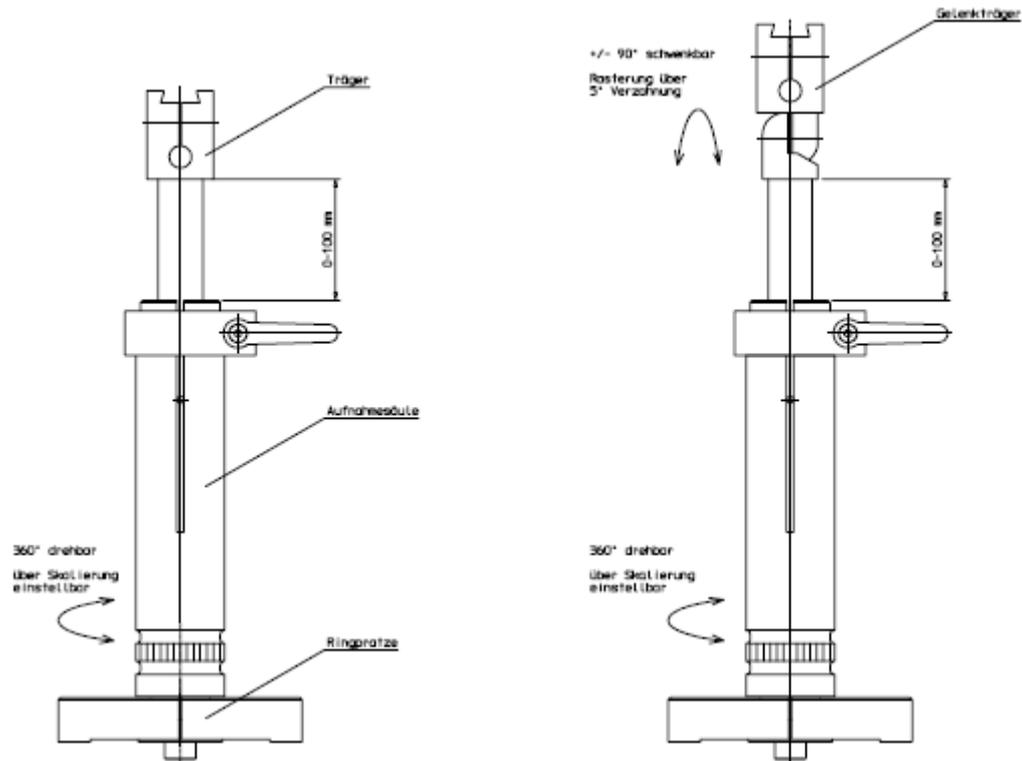
Spring retainer for mounting on prism 120/ - M10x1.



Description:

Spring retainer for mounting on prism 120/ - M16x1.

Lifting column:



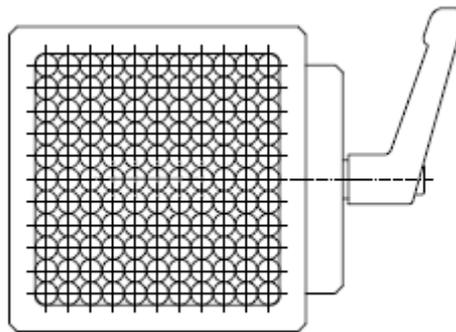
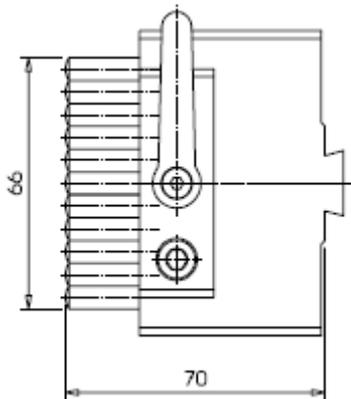
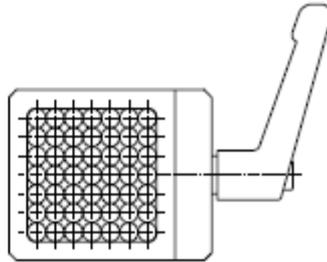
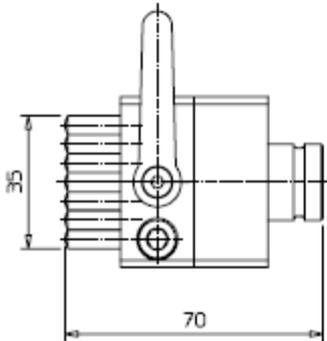
Description:

The lifting column serves as a universal receiving module of different clamping-, supporting- and positioning modules on the basic plate. It is 360° rotating as well as 100 mm height setting. This enable exactly placed mounting modules between the actual grid location pattern direct at the work piece. The "head piece" is according to the version inflexible or $\pm 90^\circ$ swivelling. Different individual modules lead to varying construction variation of the lifting column.



Mounting example

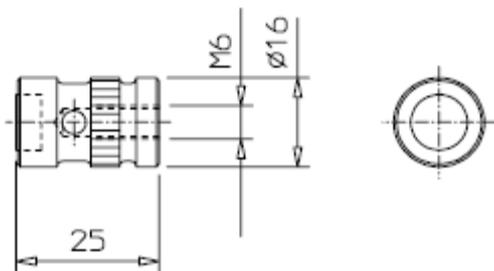
Needle support:



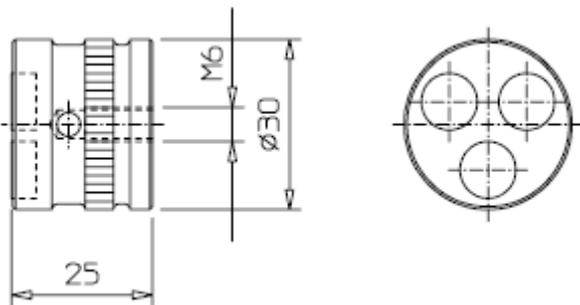
Description:

The needle support is an universal work piece support. If you press the work piece into the support the easy flexible needles will fit to the work piece shape. By clamping the needles the "negative shape" can be fixed and it makes a reproducible work piece fixing possible.

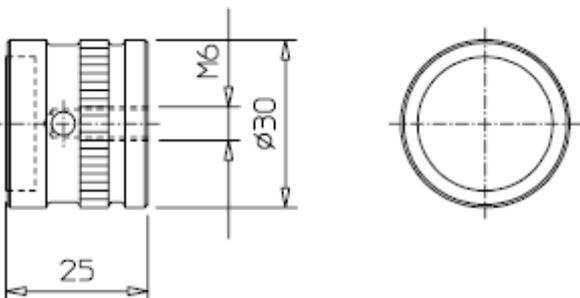
Magnetic support ø16:



Magnetic support ø30-3:



Magnetic support ø30-1:



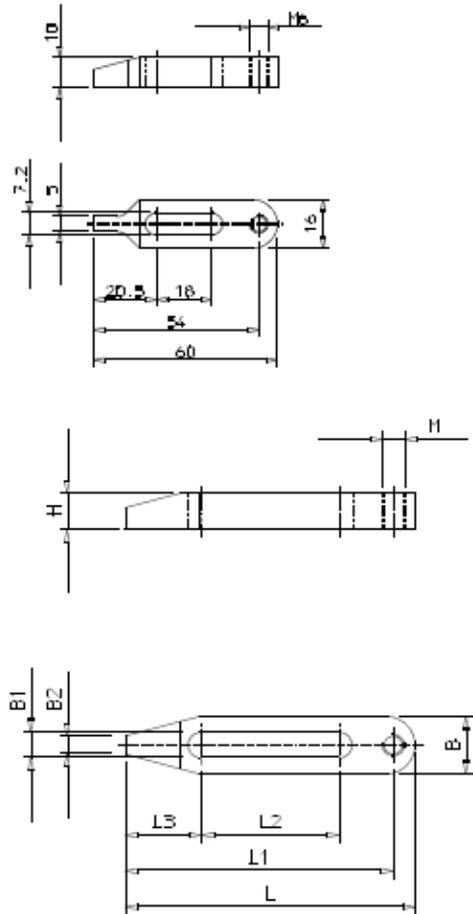
Description:

Support for the receive of magnetizable work pieces.
The magnetic support can be combined with different accessories with connection screw thread M6.



Mounting example

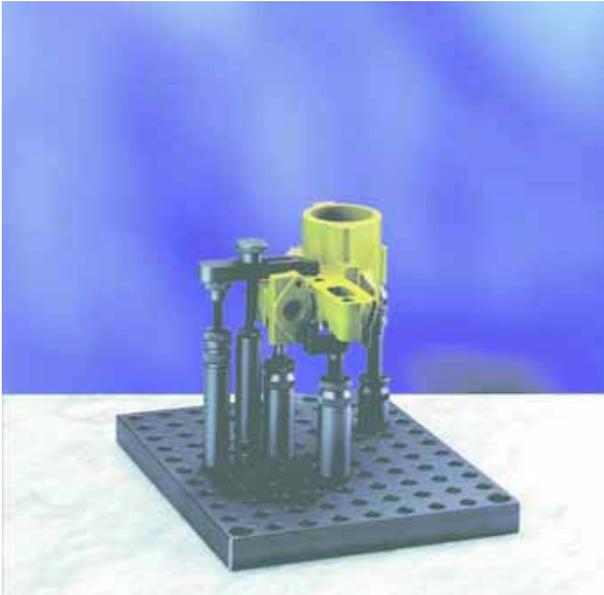
Clamping claws



L [mm]	B [mm]	H [mm]	L1 [mm]	L2 [mm]	L3 [mm]	B1 [mm]	B2 [mm]	M
60	16	10	54	18	21	7,2	5	M6
80	16	10	74	38	21	7,2	5	M6
100	16	10	94	58	21	7,2	5	M6
120	16	10	114	78	21	7,2	5	M6
150	26	15	140	80	35	10,2	10	M10
200	26	15	190	130	35	10,2	10	M10
300	26	15	290	230	35	10,2	10	M10

Description:

The clamping claws are used combined with knurled thumb screw, supporting screw and knurled nut. Because of this it is possible to realise different claw combinations.



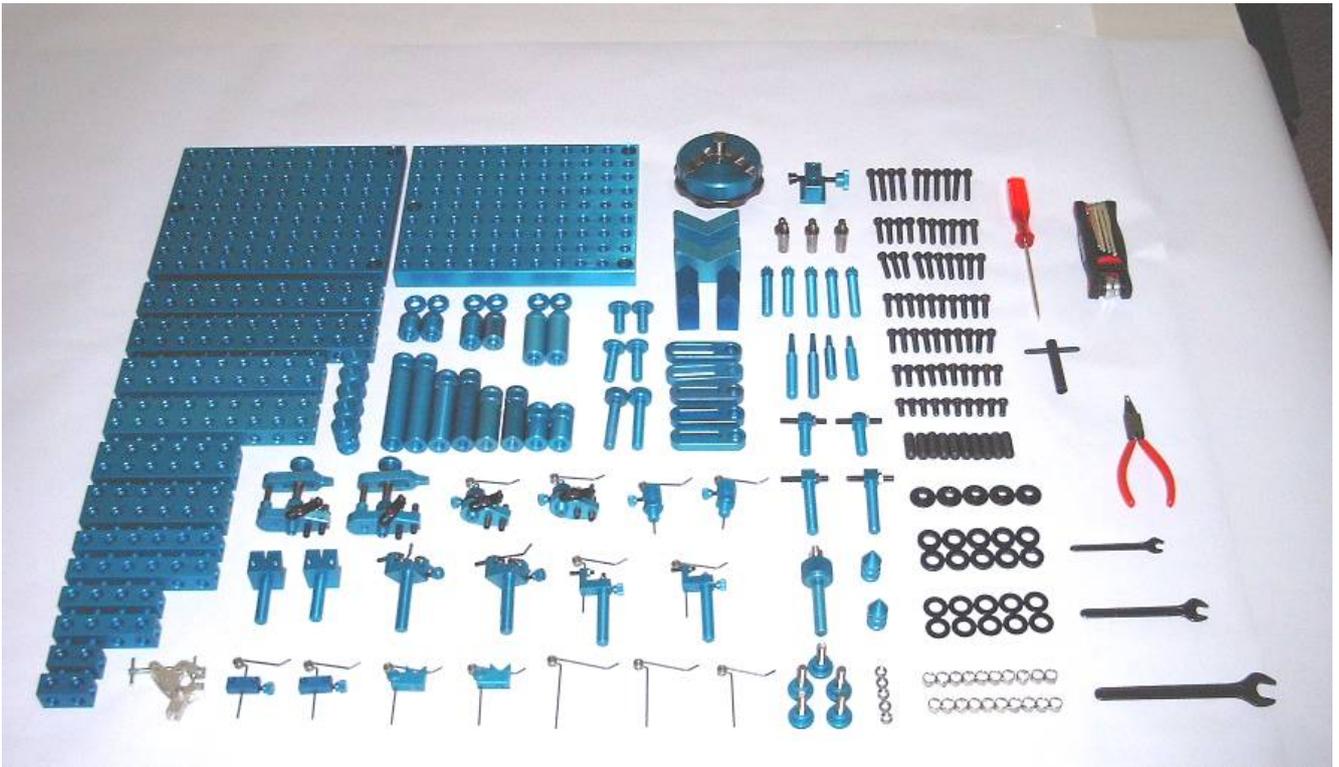
Kit A

(98 Teile)

Volume of supply:

2 pieces	Pallet 180x180x20
2 pieces	Rail 120x20x20
2 pieces	Rail 80x20x20
2 pieces	Rail 40x20x20
1 pieces	Clamping hand 25
2 pieces	Clamping spring module
2 pieces	Intermediary IM6-IM10
2 pieces	Slide rail, M7
2 pieces	Receiver - M10x1 / 24mm
2 pieces	Receiver - M10x1 / 34mm
1 piece	Supporting plate - M10x1 / l=38mm
2 pieces	Headed dowel - M10x1 / l=50mm
1 piece	Ball joint M6 - M10x1
1 piece	Stop - M10x1 / 12x12x62mm
2 pieces	Prism uit 20x40
20 pieces	Centering sleeve \varnothing 10mm
10 pieces	Cheese head screw M6x20mm
10 pieces	Cheese head screw M6x25mm
10 pieces	Cheese head screw M6x35mm
2 pieces	Knurled screw M7x25mm
2 pieces	Plastic plain washer \varnothing 20x2-10
2 pieces	Plastic plain washer \varnothing 20x4-10
1 piece	Tool kit
1 piece	Storage box

Kit B		(240 pieces)
Volume of supply:		
2 pieces	Pallet 220x180x20	1 piece Clamping spring
2 pieces	Rail 220x40x20	20 pieces Centering sleeve d10
2 pieces	Rail 180x40x20	10 pieces Threaded pin M10x25
2 pieces	Rail 120x40x20	10 pieces Cap screw M6x12
2 pieces	Rail 120x20x20	10 pieces Cap screw M6x16
2 pieces	Rail 80x20x20	20 pieces Cap screw M6x20
2 pieces	Rail 40x20x20	20 pieces Cap screw M6x25
		10 pieces Cap screw M6x35
1 piece	Clamping block for pallet	5 pieces Knurled screw M7x25
1 piece	Clamping chuck ø80	10 pieces Plastic washer ø20x2-10
1 piece	Clamping hand 25	10 pieces Plastic washer ø20x4-10
2 pieces	Clamping claw unit	
2 pieces	Clamping spring module	5 pieces slotted nut M6
2 pieces	Clamping spring unit	1 piece Tool kit
		1 piece Storage box
5 pieces	Intermediary IM6-IM10	
5 pieces	Centering ring d10-22x5	
2 pieces	Stud bolt d20x40	
2 pieces	Stud bolt d20x60	
2 pieces	Stud bolt d20x80	
2 pieces	Stud bolt d20x100	
5 pieces	Slide rail, für M7	
2 pieces	Receiver - M10x1 / l=24	
2 pieces	Receiver - M10x1 / l=34	
2 pieces	Receiver - M10x1 / l=54	
2 pieces	Supporting plate - M10x1 / l=28	
2 pieces	Supporting plate - M10x1 / l=38	
2 pieces	Supporting plate - M10x1 / l=58	
2 pieces	Supporting pin - M10x1 / l=50	
2 pieces	Supporting pin - M10x1 / l=75	
2 pieces	Supporting pin X stop - M10x1	
2 pieces	Supporting pin XY stop - M10x1	
5 pieces	Receiver M6 - M10x1	
1 piece	Ball joint M6 - M10x1	
2 pieces	Cone d16x33	
2 pieces	Detachable prism 25x20x10	
2 pieces	Prism 120 ° - M10x1 / l=60	
2 pieces	Spring retainer, prism	
2 pieces	Stop - M10x1 / 12x12x42	
2 pieces	Stop - M10x1 / 12x12x62	
3 pieces	Bearing bolt d14x5	
3 pieces	Stop pin d10x24	
2 pieces	Supporting prism 120 °	
2 pieces	Prism modules 20x40	



Kit B



Kit C		(385 pieces)
<u>Volume of supply:</u>		
1 piece Pallet 360x220x20	5 pieces	Receiver M6 - M10x1
2 pieces Pallet 180x180x20	1 piece	Ball joint M6 - M10x1
2 pieces Rail 220x40x20	2 pieces	Cone d16x33
2 pieces Rail 180x40x20	1 piece	Cone d30x45
2 pieces Rail 120x40x20	2 pieces	Detachable prism 25x20x10
2 pieces Rail 160x20x20	2 pieces	Detachable prism 30x20x10
2 pieces Rail 120x20x20	2 pieces	Prism 120 - M10x1 / l=60
2 pieces Rail 80x20x20	2 pieces	Spring retainer, prism
2 pieces Rail 40x20x20	2 pieces	Stop - M10x1 / 12x12x42
2 pieces Angle 180x80x20	2 pieces	Stop - M10x1 / 12x12x62
1 piece Spindle vice SP 50 AL	3 pieces	Supporting pin d14x5
1 piece Clamping jaw with receiver pin	3 pieces	Supporting pin d10x24
1 piece Clamping block for pallet	2 pieces	Supporting prism 120 °
1 piece Clamping chuck d100	2 pieces	Prism module 20x20x30
1 piece Clamping hand 25	2 pieces	Prism module 20x40
1 piece Clamping hand 50		
2 pieces Clamping claw unit	2 pieces	Clamping claw 60A
4 pieces Clamping claw unit	2 pieces	Clamping claw 76
2 pieces Clamping spring module	2 pieces	Clamping spring
2 pieces toggle lever clamping device HS	1 piece	Basic plate 135x100x12
2 pieces Receiver for joint	2 pieces	Dowel screw M7
	30 pieces	Centering sleeve d10
5 pieces Intermediary IM6-IM10	20 pieces	Threaded pin M6x20
5 pieces Centerring ring d10-18x5	20 pieces	Threaded pin M10x25
5 pieces Centerring ring d10-22x5	10 pieces	Cap screw M6x12
2 pieces Stud bolt d16x30	10 pieces	Cap screw M6x16
2 pieces Stud bolt d16x40	20 pieces	Cap screw M6x20
2 pieces Stud bolt d16x60	20 pieces	Cap screw M6x25
2 pieces Stud bolt d16x80	10 pieces	Cap screw M6x35
2 pieces Stud bolt d16x100	2 pieces	Knurled thump screw M6x35
2 pieces Stud bolt d20x30	2 pieces	Knurled thump screw M6x45
2 pieces Stud bolt d20x40	2 pieces	Knurled thump screw M6x55
2 pieces Stud bolt d20x60	5 pieces	Knurled thump screw M7x25
2 pieces Stud bolt d20x80	2 pieces	Supporting screw M6
2 pieces Stud bolt d20x100	10 pieces	Knurled nut M6
5 pieces Slide rail, für M7	10 pieces	Plastic washer ø16x2-6
4 pieces Receiver - M10x1 / l=24	10 pieces	Plastic washer ø16x4-6
4 pieces Receiver - M10x1 / l=34	10 pieces	Plastic washer ø16x2-7
4 pieces Receiver - M10x1 / l=54	10 pieces	Plastic washer ø20x2-10
2 pieces Supporting plate - M10x1 / l=28	10 pieces	Plastic washer ø20x4-10
2 pieces Supporting plate - M10x1 / l=38	5 pieces	Steel slotted nut M6
2 pieces Supporting plate - M10x1 / l=58	1 piece	Tool set
2 pieces Supporting pin - M10x1 / l=50	2 pieces	Storage box
2 pieces Supporting pin - M10x1 / l=75		
2 pieces Supporting pin X stop - M10x1		
2 pieces Supporting pin XY stop - M10x1		

Kit clamping block 36

Volume of supply:

1 piece Pallet 120x120x20mm
 1 piece Clamping block for pallet
 3 pieces Supporting pin \varnothing 14-M7
 3 pieces Stop pin \varnothing 10mm



Kit clamping hand 25

Volume of supply:

1 piece Pallet 120x120x20mm
 1 piece Clamping hand 25
 1 piece Ball joint M6 - M10x1
 1 Stck. Receiver - M10x1, 34mm



Kit spindle vice 32

Volume of supply:

1 piece Spindle vice SP 32 AL
 1 piece Articulated arm 130mm
 1 piece Adaptor plate for SP 32 AL
 1 piece Basic plate 80x80x12mm
 1 Set Small parts



Set spring clamp

Volume of supply:

1 piece Spring clamp
 1 piece Articulated arm 200mm
 1 piece Basic plate 80x80x12mm



Set drill chuck

Volume of supply:

1 piece Drill chuck 1-13mm
1 piece Basic plate 80x80x12mm



Set clamping chuck ø 80

Volume of supply:

1 piece Clamping chuck ø80mm
1 piece Basic plate 135x100x12mm
2 pieces Centering sleeve ø10mm
2 pieces Cap screw M6x20mm



Tool kit:



Volume of supply:

- 1 Set Hexagon head socket wrench SW 2-10
- 1 piece Engineers wrench SW 7
- 1 piece Engineers wrench SW 10
- 1 piece Engineers wrench SW 15
- 1 piece Screwdriver ø4
- 1 piece Screwdriver ø8
- 1 piece Plier

Modelling plasticine:



Description:

Modelling plasticine for a fast and easy fixing of the work pieces on the measuring plate.

Plastic case:



Description:

Plastic case with storage box.

blue

Volume of supply:

- 1 piece of plastic case
- 1 piece of storage box

Tool cupboard, movable:



Description:

Movable tool cupboard with 6 drawers.

Cupboard powder coated
black, blue

Volume of supply:

- 1 cupboard
- 1set of divide material
- 2 pieces of storage boxes