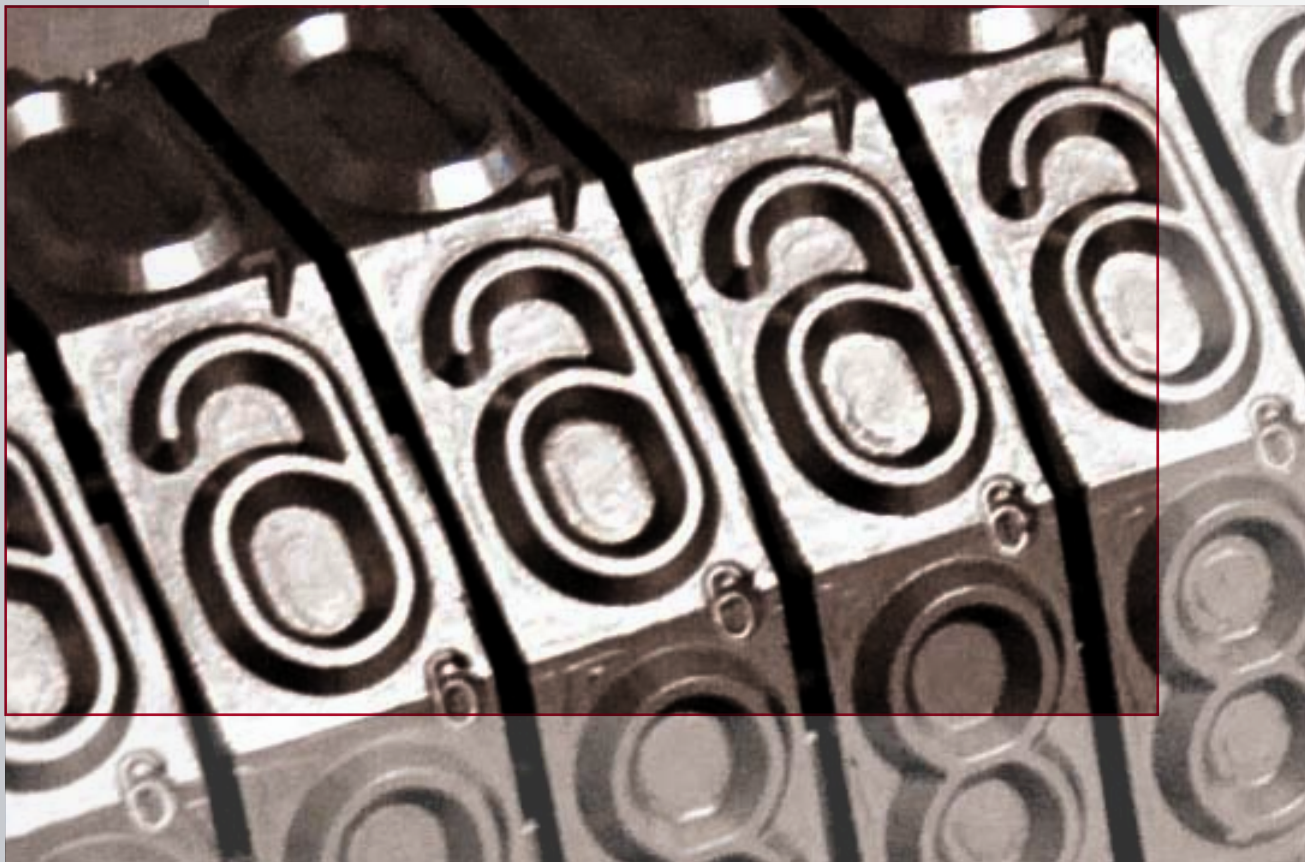


MARKATOR®-PRODUCT RANGE

CONVENTIONAL MARKING



MARKATOR®

ABOUT US

We are experts in durable and economic marking of industrial parts to help eliminate forgery.

MARKATOR® have been developing and manufactures high-quality systems for dot peen and scribe marking for over 30 years. We also produce hand-held and machinery marking tools. We can meet our customers' needs individually and precisely.

Our aim is to achieve the highest quality possible. We attach importance to solid consulting, customer-related development and user-friendly marking systems.

We maintain a constant dialogue with our customers and their applications which help us maintain a continual development, optimisation and innovations within our product range.

Our benefits are completed with a committed and professional service manned by our high-qualified employees.

See it for yourself! We're looking forward to getting to know you!



CONVENTIONAL MARKING

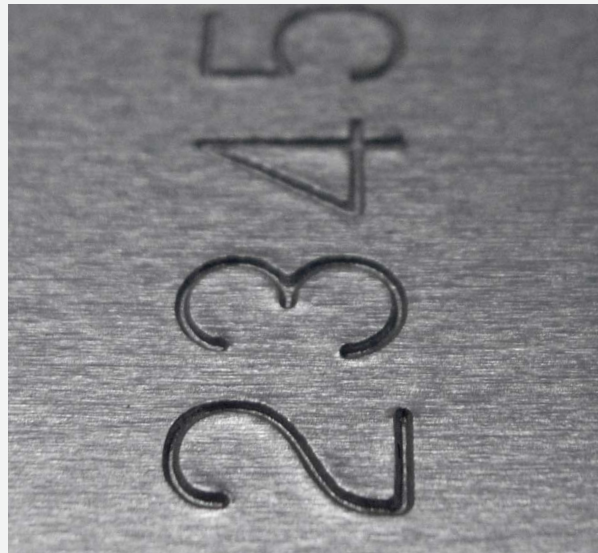
MARKATOR® offers several solutions for the conventional marking of work pieces – from hand marking punches with your own company logo or simple standard machines with tools. Impact marking machines and stamp tools offer many possibilities to mark work pieces of all kinds.

The conventional marking systems of MARKATOR® are particularly suitable for unchanged texts, continuous numbering, short cycle times and small quantities. According to the particular specifications, the work pieces can be marked extremely deep and durable.

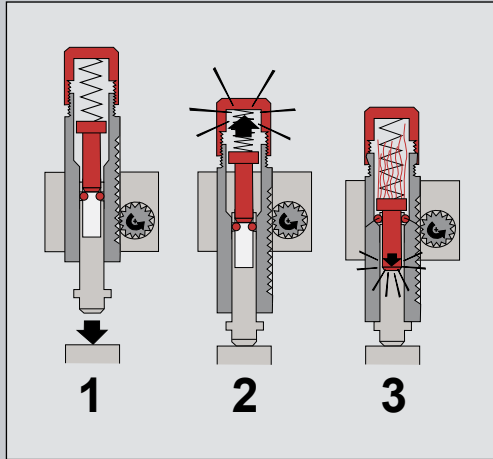
Our marking systems are exclusively made out of top-class materials and withstand extreme use. The stamp tools consist of special toughened stamping steel and are suitable for impact marking machines and press marking machines. Highest life-times at stamping or embossing materials up to a strength of approx. 120 daN are guaranteed.

MARKATOR® has set itself the target to deliver all standard tools immediately. Individual special-designs as for example stamps with company logo are available on request.

Contact us! We will be glad to advise you!



IMPACT MARKING MACHINES



Functionality

1. Phase APPROACHING:

Already at the return, the machine prepares itself automatically to the following impact.

2. Phase COMPRESSION:

The work piece is fixed automatically. No clamping device is necessary. The compression process starts with the first contact to the work piece and through to this no impact will go nowhere. A continuous percussion power can be reached also when marking work pieces of different heights.

3. Phase IMPACT:

The percussion pin is blocked directly after the impact and no backstroke will be created. A constant percussion power can be guaranteed.

Impact spring-spindles

The simple constructed impact spring-spindles guarantee a reliable and trouble-free operation at frequent, strong use of stamping, marking, embossing, signing, riveting, mounting, punching, crimping, banding or flanging. Everywhere where high performance within a small area is required, the use of the compact impact spring-spindles is suitable. Only one feed mechanism is necessary which moves the spring-spindle with the appropriate power against the work piece.

Both in the customized production and in the multi-shift production process, the impact spring-spindles offer an optimal cost-benefit ratio. The possible percussion power which is for all four sizes very high, needs just 15% of the stepless adjustable final output to release the impact mechanics. The manual use is possible without any problems and it is optionally also possible to use the energy saving pneumatic version. Through to a large stroke it is possible to mark work pieces of varying sizes without a previous adjustment. Almost all formable materials can be marked.

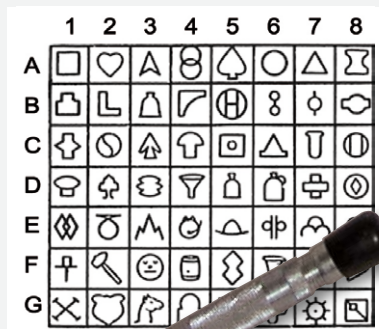
The modular design system of MARKATOR® enables the compact use of single impact spring-spindles as machine element for special applications and also offers proven and economical standard table marking machines. The impact spring-spindles are also used in well proved extension- or installation units.



Centre punches

This impact hand marker is not much bigger than a pen. With a diameter of 17 mm, the light-weight and handy centre punch – Micro-MARKATOR® MV8 – is the perfect tool to mark work pieces without a hammer and through to this also safe, fast and simple. The percussion power is stepless adjustable up to 500 N.

These hand markers which can be released with the ball of the thumb are primary used for centre-marking, scribing, stamping and numbering. The insets of the centre punches can be exchanged very fast and simple which means an enormous time-saving and a high flexibility.



Manual table machines

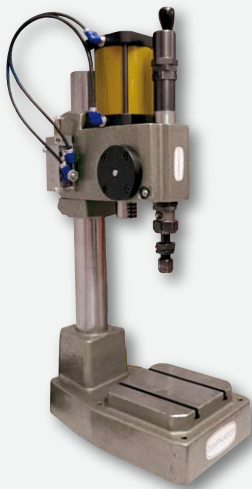
Through a hand lever the impact spring-spindle is moved to the work piece. At the time the tool touches the work piece this is fixed. The spring-spindle has then be tensioned continuously via the hand lever until the non bouncing impact punch is released. During the return stroke the spring-spindle is tensio-ning automatically and is ready for the next impact.

Available types of machines:

MINI - MARKATOR MV 11 M

MIDI - MARKATOR MV 18 M

MAXI - MARKATOR MV 30 M



Pneumatic table machines

The same principle of operation than with the manual table machine but on this a double acting pneumatic cylinder is moving the spring-spindle to the work piece and back. During the movement the hand level is blocked. A two-handed safety controlled version for effective accident prevention is available.

Available types of machines:

MINI - MARKATOR MV 12 P

MIDI - MARKATOR MV 21 P

MAXI - MARKATOR MV 35 P



MV23 VP

Pneumatic installation units

In these compact marking devices, the impact spring-spindle is space-saving integrated in the piston rod of the pneumatic cylinder. It is moving against the work piece until the impact is released. A continuous percussion power can be reached also when marking work pieces of different heights. For the final position check, all units are optionally available with non-contact and inductive sensors.

Available types of machines:

MICRO - MARKATOR MV 8 VP (E)

MINI - MARKATOR MV 13 VP (E)

MIDI - MARKATOR MV 23 VP (E)



Technical data

| | MICRO | MINI | | MIDI |
|--|--------|----------|-------|-------------|
| Models | MV 8 | MV 11/12 | MV 13 | MV 18/21/23 |
| Percussion power, stepless adjustable, max. | 50 daN | 5 kN | 5 kN | 25 kN |
| Max. impact sequence per hour, approx | 1500 | 1500 | 1500 | 1500 |
| Retraction of the spindle until the impact releases, approx. | 10 mm | 10 mm | 10 mm | 20 mm |
| Stroke of the spindle max. | 60 mm | 40 mm | 50 mm | 60 mm |
| Usable stroke of spindle max. | 50 mm | 30 mm | 40 mm | 40 mm |

A .stp or .dxf file is available for all units.

STAMP TOOLS

The MARKATOR® stamping tools are exclusively made of high-quality special stamping steel which is though hardened. Because of this the tools are also suitable for the use in impact marking machines, press marking machines and roll marking machines. Highest life-times at stamping or embossing materials up to a strength of approx. 120 daN are guaranteed.

All MARKATOR® type holders and numbering heads are equipped with an internal thread M 12 for self-manufactured clamping spigots. Through to this they can be used with a hand punch shaft, as a hand-held tool and also as a machine tool, using the suitable clamping spigots.



Standard steel types

The high-quality MARKATOR® steel types are suitable for the simple marking of work pieces. Any characters and/or number combinations can be inserted in according tools as for example in type holders. Even markings with one blow of the hammer are more perfect than using single hand marking punches.

The main advantage of the exchangeable MARKATOR® steel types is the possibility to combine any characters or numbers for a single- or multiline stamping. For this MARKATOR® offers a range of standard and special type holders.

Standard type holders

This device for holding the exchangeable MARKATOR® steel types in a single-, two-line or in a three-line arrangement are a economically priced and flexible solution for a perfect marking with just one hit – either manual or automatically. Made of high-quality materials the type holders have a long life-time. We deliver the standard versions ex stock.

Available types of machines:

Straight standard type holder MV 24

Heated standard type holder MV 28



Numbering head

MARKATOR® numbering heads are mechanic precision tools of highest quality. They reach a maximum, dynamic (impact-) pressure force of up to 50 kN or a static (hydraulic/pneumatic) pressure force of up to max. 80 kN. Equipped with a brass cage and with nickel plated wheels for optimized heat conduction, the tools in the heatable version are also suitable for the hot stamping.

Available types of machines:

Hand-punch numbering head MV 7

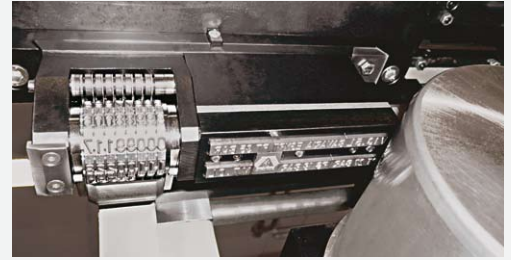
Hand adjustable numbering head MV 4

Touch adjustable numbering head MV 14

Automatic numbering head MV 2

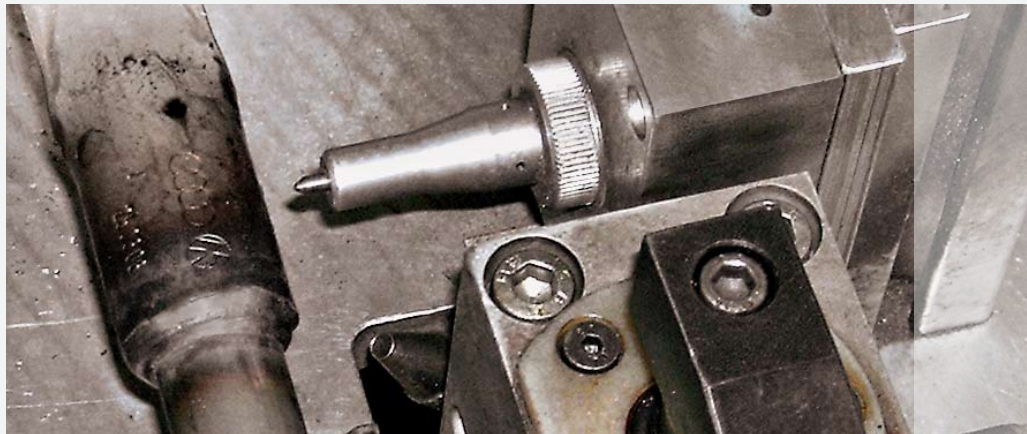
Special models of numbering heads

MARKATOR® numbering heads in a special model are individual manufactured tools which are produced after individual specifications. It is possible to realize both embossing tools for extra strong forces as well as combinations of standard embossing tools with integrated or built-on type holders as far as technically possible.



Integration unit with an oscillating dot peen stylus MARKATOR® MV 80

This compact dot peen marker can be used for the marking of simple centre punches and belongs to the group of pneumatic installation units. Through to the pneumatic stylus this device marks efficient, fast and gentle. The MV 80 is applicable in for example automatic testing or production lines. It is possible to mark materials as glass, aluminum but also hardened steel up to 62 HRC.



Application in a testing machine

MARKATOR® MV 90 NUTCRACKER*

This new developed impact wrench module MARKATOR® MV90 NutCracker* for which a patent has been registered is suitable to mark screw heads. This integration unit can be used in testing machines, production lines and wherever a soft and simple centre punch is needed. The marking will be done quickly and rationally.

There are two different sizes of this compact impact wrench module available. The small version includes a 61 mm long marking pin and offers a height tolerance compensation of maximum 5 mm from the initial position to the screw surface. The big version of the marking pin is 84 mm long and offers a height tolerance compensation of maximum 8 mm. Both, short and long version, were developed for the common unit size of $\frac{3}{4}$ ". The maximum torque absorption amounts 550Nm.

This dot peen marker is characterised by its good price-performance-ratio. The use is possible with low operation costs and low wear characteristics.



* registered for patent

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