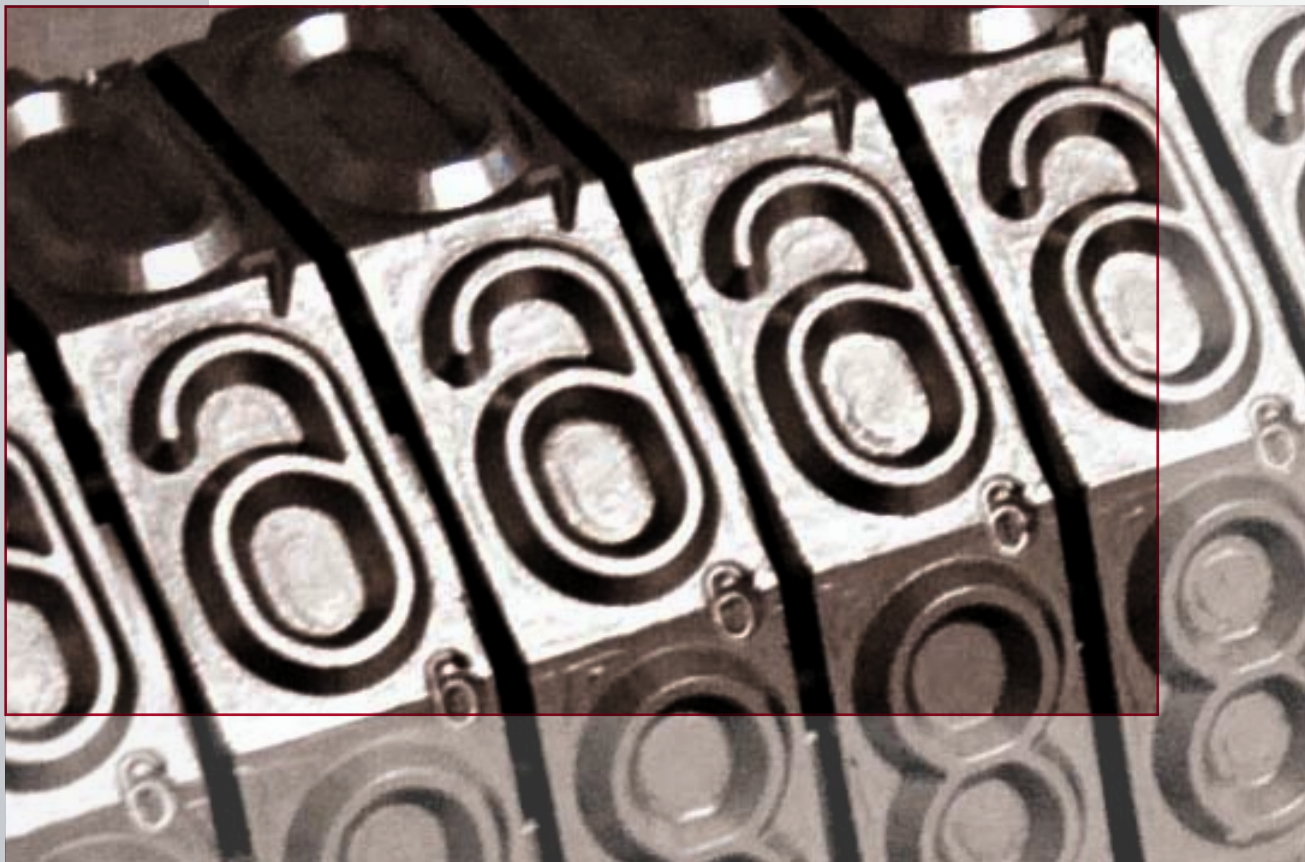


MARKATOR®-PRODUCT RANGE

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 manufacturing high-quality systems for dot peen and scribe marking for over 25 years. We also produce hand-held and machinery marking tools. We can meet our customers' needs individually and precisely.

Our aim is to achieve highest quality. 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 helps us to maintain continual developments, optimisations and innovations within our product range.

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

See for yourself! We're pleased to get 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 through to individual, fully automatic special-purpose machines.

Impact marking machines, pressure marking machines, roll marking machines, hot stamp 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, 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.

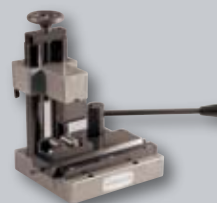
MARKATOR® has set itself the target to deliver all standard tools immediately. Individual special-designs as for example stamps with company logo are available on request. Contact us! We will be glad to advise you!



Impact marking machines



Pressure marking machines



Roll marking machines



Hot stamp marking machines



Stamp tools

IMPACT MARKING MACHINES

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.

Wherever high performance within a small area is required, the use of the compact impact spring-spindles is suitable.

Only a one feed mechanism is necessary to move the spring-spindle with the appropriate power against the work piece.

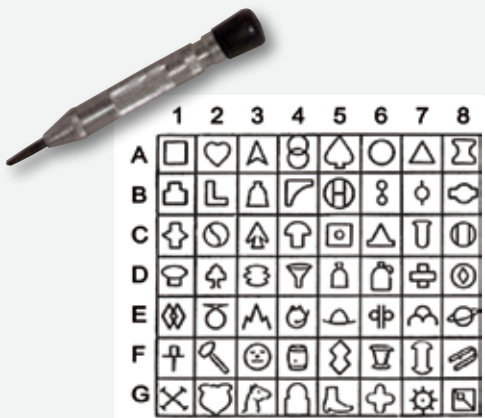
Both in the customized production and in the multi-shift production process, the impact spring-spindles offer an optimal cost-benefit-ratio.

The possible percussion power which is for all available 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 also possible to use the energy saving pneumatic version as an option.

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. It 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® MV 8 – 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 enormous time-saving and high flexibility.

Functionality

1. Phase APPROACHING:

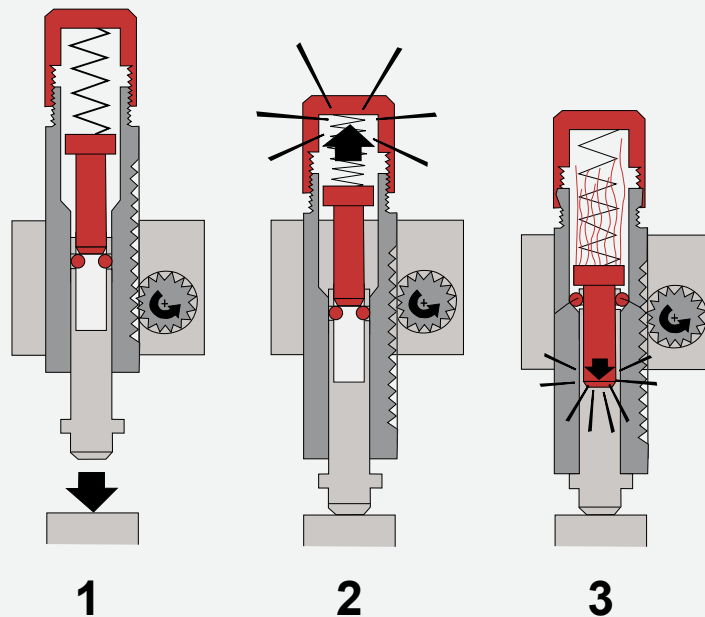
Already at the return, the machine prepares itself automatically to the following impact.

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.



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 it 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 tensioning 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

(See page 6 for the technical data)



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

(See page 6 for the technical data)

Pneumatic extension units

Robust power device for production use for example on automatic turntables. Identical principle of operation as described at the pneumatic table machine. The hand lever is blocked during the impact process but is very helpful while setting up the machine.

Available types of machines:

MINI - MARKATOR® MV 12 U

MIDI - MARKATOR® MV 21 U

MAXI - MARKATOR® MV 35 U

(See table below for the technical data)

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 moves against the work piece until the impact is released. 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)

MINI PLUS MARKATOR® MV 33 VP (E)

MIDI - MARKATOR® MV 23 VP (E)

(See table below for the technical data)



MV 13 VP

This very space-saving installation unit with an impact spring-spindle is moved pneumatically and has an usable stroke of 40 mm. The stepless adjustable impact spring-spindle from max. 5kN conforms a hydraulic pressure of approx. 800 kg.

A continuous percussion power can be reached also when marking work pieces of different heights. The universal suitable marking device MV 13 VP can be used for stamping, embossing, riveting, etc. This product is characterized by its low energy demand and by the independent position for mounting and use.

The unit can optionally be combined with stamping tools or journal stamps.



Technical data

	MICRO	MINI		MIDI	MAXI
Models	MV 8	MV 11/12	MV 13	MV 18/21/23	MV 30/35
Percussion power, stepless adjustable, max.	50 daN	5 kN	5 kN	25 kN	50 kN
Max. impact sequence per hour, approx	1500	1500	1500	1500	1500
Retraction of the spindle until the impact releases, approx.	10 mm	10 mm	10 mm	20 mm	25 mm
Stroke of the spindle max.	60 mm	40 mm	50 mm	60 mm	80 mm
Usable stroke of spindle max.	50 mm	30 mm	40 mm	40 mm	55 mm

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

PRESSURE MARKING MACHINES

If very strong forces are needed for marking, this pneumo-hydraulic embossing presses are the ideal addition to the impact spring-spindle machines.

Exclusively compressed air is necessary for the use of this universal applicable, heavy table machines. The compact, pneumo-hydraulic work cylinder acts as an effective pressure multiplier with minor investment- and operating costs.

High operational reliability in long time use is guaranteed through to the nearly maintenance-free conception of the installation unit.

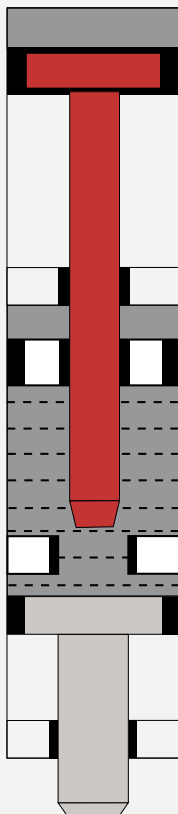
Available types of machines:

MARKATOR® MV 50/10

MARKATOR® MV 50/20

MARKATOR® MV 50/30

(See table for the technical data)



Technical data

	MV 50/10	MV 50/20	MV 50/30
Medium	Filtered and oiled compressed air, 8 bar max.		
Embossing power at 6 bar nominal pressure, max.	100 kN	200 kN	400 kN
Stepless adjustable, per 1 bar $\hat{=}$	16,5 kN	33 kN	49,5 kN
Max. stroke sequence per hour, approx.	1500	1500	1500
Rush stroke (Phase of approaching) max.	30 mm	33 mm	34 mm
Power of the rush stroke at 6 bar	8 kN	8 kN	8 kN
Stepless adjustable, per 1 bar $\hat{=}$	130 daN	130 daN	130 daN
Automatic switch of Rush-/Work Stroke	Upon work piece contact of the embossing tool		
Max. usable work stroke (Phase of impact)	5 mm	2 mm	1 mm
Weight	285 kg	285 kg	285 kg

Functionality

The feed mechanism takes place in two steps which merge automatically by the contact of the work piece. The stepless adjustable embossing power of the work stroke is provided by the hydraulic pressure multiplier. The return stroke takes place after the programmed time of the adjustable time control valve.

ROLL MARKING MACHINES

Using the MARKATOR® roll marking machines, durable markings on individual work pieces can be reached with less expenditure of force.

Either manual or pneumatic driven machines are moving the embossing tool pre-compressed tangential over massive or hollow round work pieces. The marking takes place radial or axial into the turning work piece. With special embossing wheels it is very simple to mark also flat work pieces.

Available types of machines:

Manual MARKATOR® MV 41 M, embossable diameters up to 55 mm

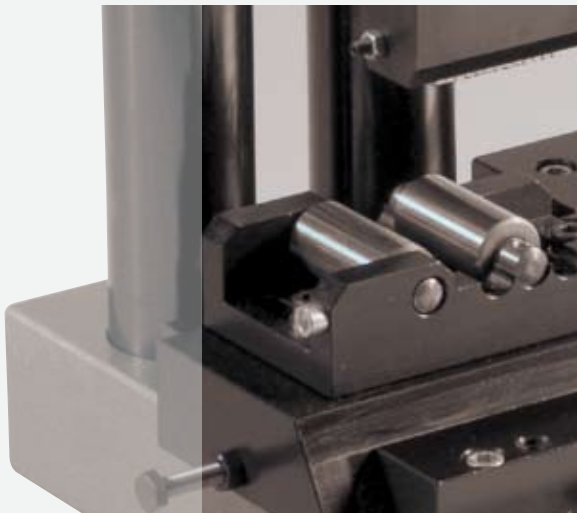
Manual MARKATOR® MV 70 M 1, embossable diameters up to 90 mm

Manual MARKATOR® MV 70 M 2, embossable diameters up to 150 mm

Pneumatic MARKATOR® MV 70 P 1, embossable diameters up to 50 mm

Pneumatic MARKATOR® MV 70 P 2, embossable diameters up to 150 mm

Electrohydraulic MARKATOR® MV 150 EH, embossable diameters up to 400 mm



Twin roller fixture

As supporting device for round work pieces, several twin roller fixtures are available. The size is depending on the particular diameters. Some of the twin roller fixtures are adjustable.

Hollow, round work pieces can be fixed for embossing on mandrel fixtures. The mandrels can be changed very easy for different diameters and geometries.





HOT STAMP MARKING MACHINES

Hot stamp marking machines can control the temperature of the embossing tools and are used mainly for the blind embossing of plastics. At this marking method the pressure is replaced by heat. Optionally a color foil embossing is possible.

The embossing temperature can be regulated by a precise thermostat controller. Through to a depth adjustment device a fast marking without any problems and a constant marking depth can be guaranteed. Also an oxidation at the embossing can be prevented.

The feed motion of the hot stamp tools can be released either manual or pneumatically. Dovetail devices allow an uncomplicated change of the stamp tools.

Available types of machines:

MARKATOR® MV 160 E, manual table machine

MARKATOR® MV 210 E, pneumatic table machine

MARKATOR® MV 210 UE, pneumatic table machine

Hot stamp tools

Both exchangeable single types in the heated type holders and embossing wheels of the heatable relief numbering heads are nickel-plated. Through to this additional surface protection, unwanted material deposits can be avoided and don't interfere the marking process.

At the color-foil embossing flattened engravings cause the significant better result.



STAMP TOOL

The MARKATOR® stamping tools are exclusively made of high-quality special stamping steel which is thoughtfully 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 respective 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. A flexible solution for a perfect marking with just one hit – either manual or automatically.

Made out of high-quality materials the type holders have a long life-time. MARKATOR® delivers the standard versions ex stock.

Available types of machines:

Straight standard type holder MARKATOR® MV 24

Heated standard type holder MARKATOR® MV 28



Special type holders

For customer-specific applications special type holders can be produced. Type holders with individual dimensions, convex and concave type holders, round or segment type holders and much more. We will be glad to advise you!

Available types of machines:

Round type holder MARKATOR® MV 26

Half-round type holder MARKATOR® MV 27

Concave type holder MARKATOR® MV 29



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.

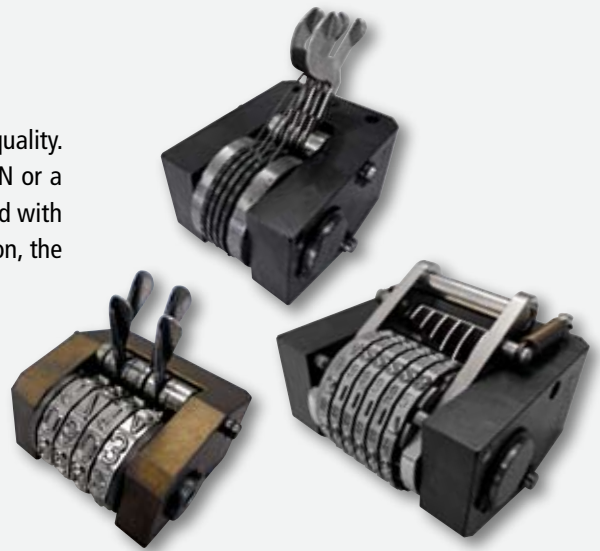
Available types of machines:

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 by 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 automatic testing or production lines. It is possible to mark materials out of glass or aluminum but also hardened steel up to 62 HRC.



Marking tool for machining centers - MV 88

The marking tool MV 88 is suitable for nearly all machining centers. Through to the pneumatic oscillating pin - according to the principle of a single acting cylinder - only slight forces are acting on the work piece to be marked. The compressed air supply is achieved by a machine spindle.

The device can be operated independently. Through to different versions of the marking pin both the penetration and the dot size can be varied. The delivery contains the stylus and the marking pin.



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