- Conventional Marking Technology
- Stylus-/ Scribe Marking Technology
- Type wheel Marking Technology
- Laser Technology
- Traceability
- Special-Purpose Machines

Conventional Marking Technology
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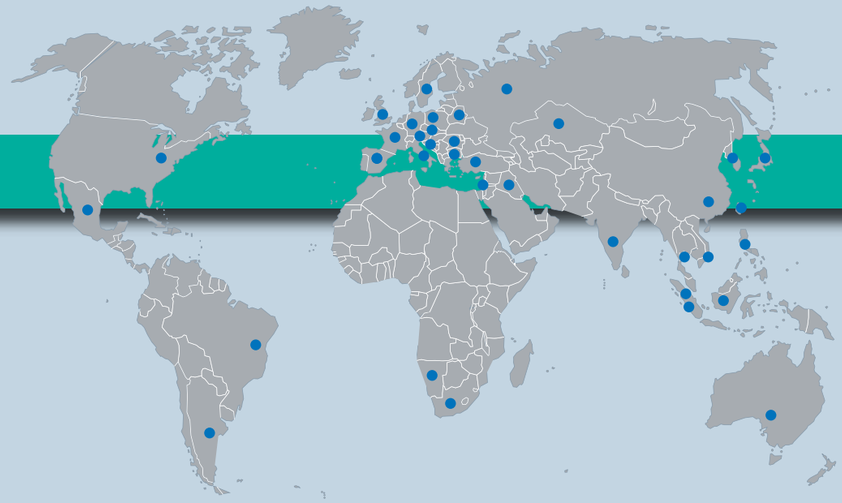
BORRIES® MARKING-SYSTEMS

In use worldwide



BORRIES® MARKING-SYSTEMS

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Stylus-/ Scribe Marking Technology
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Stylus-/ Scribe Marking Technology

Stylus-/ Scribe Marking Technology

Leaving a lasting mark!

Borries Marking-Systems manufactures machines and tools for direct marking, material-displacement marking and permanent marking.
Our marking systems can be found in service the world over: Throughout the whole of the automobile industry including the automotive suppliers, in aerospace, in the machine building industry, in the electrical and steel industries as well as in medical technology.
Our company was founded in 1952 in Ludwigsburg. The domicile of the company is now Pliezhausen near Tübingen. We are - and have been for a long time now - one of the largest, most innovative and high-performance suppliers in the marketplace.

Borries Marking-Systems – leaving a lasting mark!

Characteristics and method of functioning for scribing, stylus, dot-peening and DataMatrix and vibropeening – marking techniques

Scribing, stylus, dot-peening and DataMatrix and vibropeening – processes premanently mark workpieces made from solid materials like e.g. metal or plastic. The force acting on the workpiece is low for all these processes because of the point-focal load that is applied. This means that sensitive workpieces can also be marked.

In the case of **Scribing**, a diamond or carbide tip is pressed into the surface of the workpiece and then drawn through the material without hardly any swarf forming.

In **Stylus marking**, a marking carbide needle impacts the surface of the workpiece at a high frequency.

In the cases of **Dot-peening, DataMatrix** and **Vibropeening**, a carbide tip impacts the surface of the workpiece at a high rate. The "crater dots" that are thereby formed give a legible character and/or a DataMatrix code.

Why do components have to be marked?

Designating, coding, identifying, marking – our company providing information like this would not exist without the need for numbers, letters, codes and combinations of these, and without such meaningful identification there would be chaos everywhere.

This applies both for products of our everyday life as well as for industrial goods.

Why are products marked?

1. Organization in manufacturing

2. Quality assurance / ISO 9000 / CE symbol

3. Product liability

4. Protection against plagiarism

5. Traceability

Scribing

Stylus marking

Dot-peening

DataMatrix code

Vibropeening

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BUILT-IN UNITS

Models 312V / 313

The marking unit 312V and 313 are solid and compact marking units, which are provided with a control system. They can be integrated into production lines with low operation speed.

Standard models 312V and 313:

- Size of the marking area (in mm): 51 x 51 (312V) and 120 x 20 (313)
- Dimensions (in mm): 150 x 150 x 270 (312V) and 230 x 156 x 213 (313)
- Weight: approx. 4 kg
- Marking methods: Scribing, stylus, dot-peening, DataMatrix coding, vibropeening
- Marking speed: up to 6 characters/ second
- Character height: from 1 mm
- Penetration depth: approx. 0,01 – 0,3 mm

Figure without controller!
See page 11.

Model 314

The marking unit 314 is a powerful, compact and robust marking unit for flexible marking. It can be integrated into compact production lines.

Standard model 314:

- Size of the marking area (in mm): 80 x 50
- Dimensions (in mm): 268 x 220 x 160
- Weight: approx. 6,8 kg
- Marking methods: Scribing, stylus, dot-peening, DataMatrix coding, vibropeening
- Marking speed: up to 6 characters/ second
- Character height: from 1mm
- Penetration depth: approx. 0,01 – 0,5 mm (depending on the material to be marked)

Figure without controller!
See page 11.

Figure without controller!
See page 11.

Model 317

The marking unit 317 is a powerful, compact and robust marking unit for flexible marking. It can be integrated into production lines. A control system is included in the scope of delivery.

Standard model 317:

- Size of the marking area (in mm): 120 x 25
- Dimensions (in mm): 268 x 168 x 220
- Weight: approx. 5,5 kg
- Marking methods: Scribing, stylus, dot-peening, DataMatrix coding, vibropeening
- Marking speed: up to 6 characters/ second
- Character height: from 1 mm
- Penetration depth: approx. 0,01 – 0,5 mm

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BUILT-IN UNITS

Model 322

The marking unit 322 is a robust marking unit designed for large 3-shift operations. It is a universal device of flexible deployment. On request, it can be adapted to meet customer-specific needs.

Standard model 322:

· Size of the marking area (in mm): 100 x 100, 100 x 50 (special sizes possible)
· Dimensions (in mm): 325 x 255 x 173 (with a marking area of 100 x 100)
· Weight: approx. 13 kg
· Marking methods: Scribing, stylus, dot-peening, DataMatrix coding, vibropeening (combinations possible)
· Marking speed: up to 10 characters/ second
· Character height: from 0,5 mm
· Penetration depth: approx. 0,01 – 0,5 mm

Figure without controller!
See page 11.

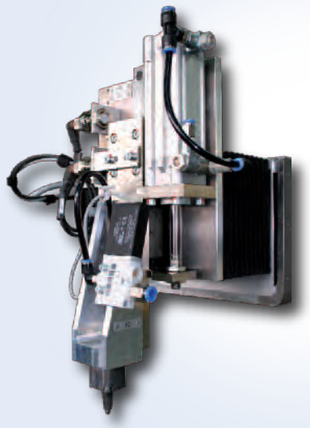
Example for special size 600 x 200 mm

Model 315

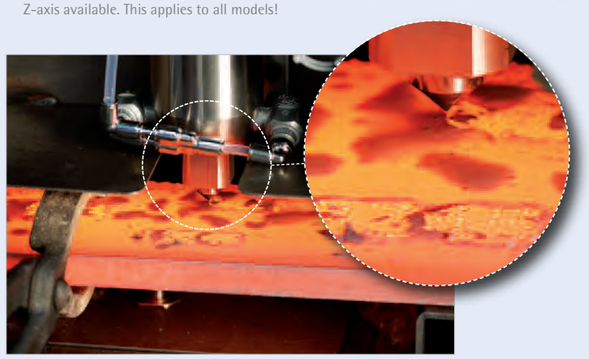
The marking unit 315 is a marking unit that meets very high protection requirements. It has been designed for continuous operation. It is suitable for marking deep markings in a harsh environment and as the standard, is fitted with an adjustment unit (pneumatic or electric). Different variants are possible.

Standard 315:

· Size of the marking area (in mm): 150 x 100 (optional: 150 x 150, special sizes possible)
· Dimensions (in mm): approx. 500 x 560 x 410
· Weight: approx. 37 kg
· Marking methods: Scribing, stylus, dot-peening, DataMatrix coding, vibropeening (combinations possible)
· Marking speed: up to 10 characters/ second
· Character height: from 1 mm
· Penetration depth: approx. 0,01 – 0,5 mm



Even with surface scanning and electrical Z-axis available. This applies to all models!



WORKSHOP UNITS

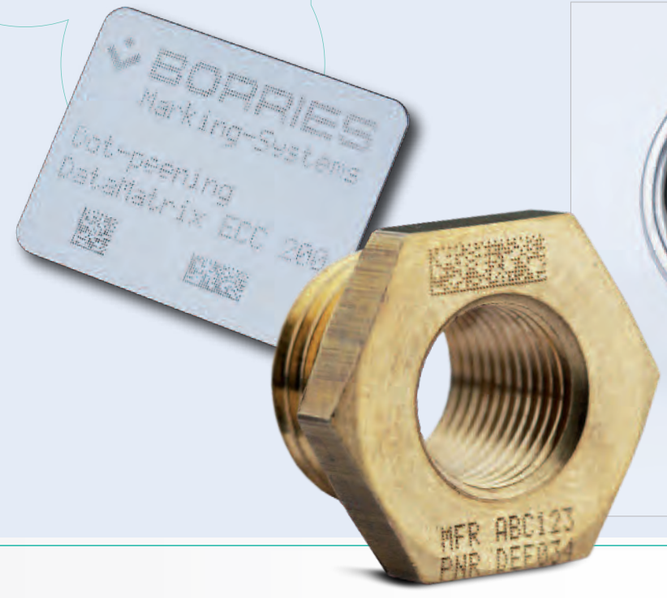
Models 320 / 520

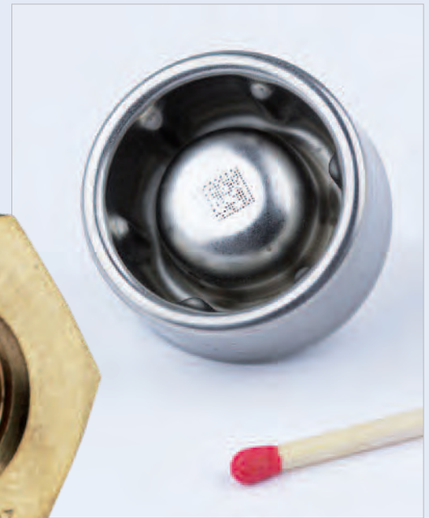
The model 320 (pneumatic) and 520 (electric) are cost-efficient and universal marking units with integrated control systems. The marking unit 320 (Scribus marking technology possible) and 520 (only stylus marking technology) are designed for single item- and small-volume series production.

Standard 320 and 520:

· Size of the marking area (in mm): 120 x 100
· Dimensions (in mm): 350 x 160 x 705 (320)
330 x 370 x 602 (520)
· Weight: approx. 33 kg (320) and 20 kg (520)
· Marking methods: Scribing (only 320), stylus, dot-peening, DataMatrix coding, vibropeening
· Marking speed: up to 3 characters/ second
· Character height: from 0,5 mm
· Penetration depth: approx. 0,01 – 0,3 mm

Figure with controller!





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COMBINED SYSTEMS

The combined systems of Borries are characterized by their modular structure of their systems. The stabile machine column is available in combination with a firmly connected marking unit or a flexible, portable marking unit. Both system variations offer the advantages of a compact workshop unit including controllers. They can be used for permanent, flexible marking on almost every material.

Technical data shown below model description.

Controller for all combined systems except Model 322

Controller EG2 for Model 322

Model 312V

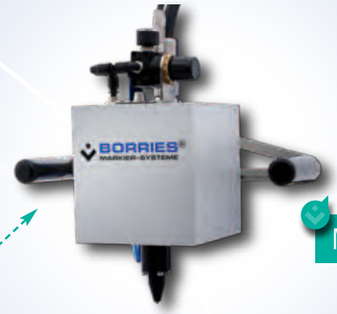
Model 313

Model 322

Model 317

Table/ column with firmly connected systems

Weight approx. 20 kg



Model 312V

Model 313

Table/ column with portable systems

Model 317

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Stylus-/ Scribe Marking Technology

HANDHELD MARKING UNITS

Models 312V / 313

These lightweight handheld marking units are particularly useful in many areas of trades and industry. Due to the good ergonomics and ease of use, these devices are ideal for use in workshops, quality assurance and in warehouse management. They can also be used as workshop units with table/ column and quick-change unit available.

Figures without controller!
See page 11.

Standard 312V and 313

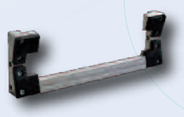
- Size of the marking area (in mm): 51 x 51 (312V) or 120 x 20 (313)
- Dimensions (in mm): approx. 360 x 160 x 270 (312V)
  approx. 360 x 166 x 213 (313)
- Weight: approx. 5,5 kg
- Marking methods: Stylus, dot-peening, DataMatrix coding, vibropeening
- Marking speed: up to 6 characters/ second
- Character height: from 1 mm
- Penetration depth: approx. 0,01 – 0,3 mm

Example adapter for handheld marking units:


Stylus adapter


Rubber adapter


Vacuum adapter


Prism adapter

Models 317 / 317 VIN

Its unique ergonomics and ease of use makes this marking unit an excellent unit for mobile use. Despite of its small dimensions it offers a large marking area. This powerful, compact and stabile marking unit can be used for VIN-numbers in small-volume series.

Standard 317 and 317 VIN

- Size of the marking area (in mm): 120 x 25
- Dimensions (in mm): 430 x 178 x 220
- Weight: approx. 4 kg
- Marking methods: Scribing
- Marking speed: up to 1 character/ second
- Character height: from 1 mm
- Penetration depth: approx. 0,15 – 0,25 mm

COMPACT CONTROL SYSTEM

Controller EK2- / EG2-Box

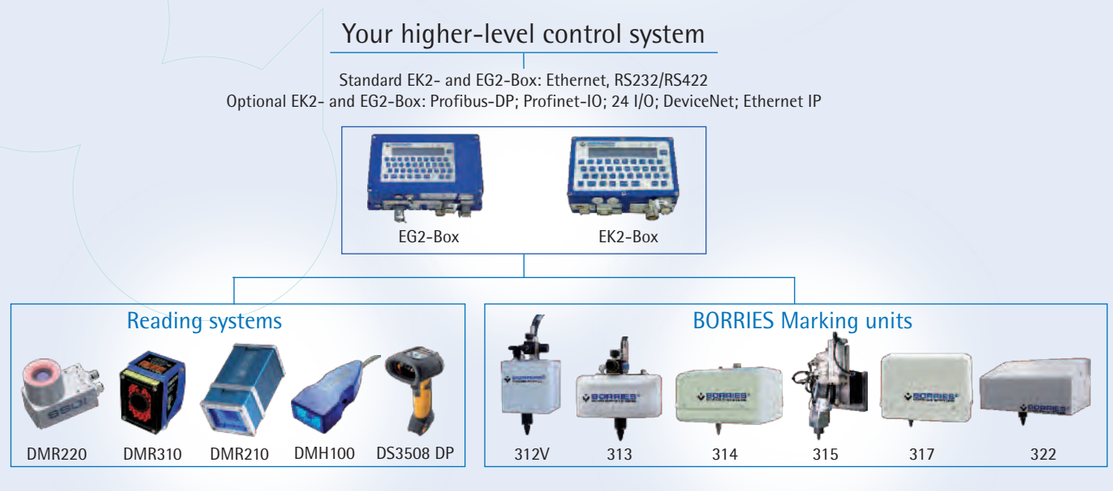
The controllers EK2 / EG2 are delivered with the appropriate marking unit. They can be used manual as well as be integrated in the automated workpiece handling. They can be integrated with no further effort right next to the marking unit. The controllers can be embedded in the superior station controllers and are equipped with a MAKRO-program as well as the common interfaces. See below.

EK2-Box
2-axes controller

EG2-Box
2-/3-axes controller

CONTROL VARIANTS

Marking and reading over the process interface



Why read?

- Reliability for the subsequent scanning processes from continuous checks of the marked DataMatrix code
  → Only parts with legible DataMatrix codes are forwarded through the production flow (IO)
- Parts where the DataMatrix code cannot be scanned are immediately removed from the production flow (NIO)

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