**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 Pfullingen 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.

**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 permanently 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
Built-in units

**Model 317**
The marking unit 317 is a powerful, compact and robust marking unit for flexible markings on workpieces. It can be integrated in production lines.

- **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

**Model 322**
The marking unit 322 is very robust and has been designed for use in 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:**
  - Standard size of the marking area (in mm): 100 x 100 or 100 x 50
  - Dimensions (for marking area 100 x 100; in mm): approx. 325 x 255 x 173
  - Weight: approx. 14 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

**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 making deep markings in a harsh environment and as the standard, is fitted with an adjustment unit (pneumatic or electric). Different variants are possible.

- **Standard model 315:**
  - Size of the marking area (in mm): 150 x 100 (option: 150 x 150, special sizes are 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

Workshop units

**Model 317**
The workshop unit 317 is a compact marking unit for permanent, flexible markings on almost all materials.

- **Standard model 317:**
  - Size of the marking area (in mm): 120 x 25
  - Dimensions (in mm): approx. 350 x 460 x 705
  - Weight: approx. 35 kg
  - Marking methods: scribing, stylus, dot-peening, DataMatrix coding, vibropeening
  - Marking speed: up to 6 characters/second
  - Character height: from 0.5 mm
  - Penetration depth: approx. 0.01 – 0.5 mm

**Model 322**
The marking unit 322 is used for realizing particularly deep markings in single item-, prototype or large-volume production.

- **Standard model 322:**
  - Standard size of the marking area (in mm): 100 x 100 (special sizes are possible)
  - Dimensions (in mm): approx. 350 x 460 x 705
  - Weight: approx. 40 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

**Models 320 / 520**
The models 320 and 520 are universal and flexible marking units. They are designed for single item- and small-volume series production.

- **Standard model 320 / 520:**
  - Size of the marking area (in mm): 120 x 100
  - Dimensions (in mm): approx. 350 x 460 x 705 and 330 x 370 x 602
  - Weight: approx. 33 kg and 15 kg
  - 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 and 0.03 – 0.3 mm
The right solution for every requirement: the models 312V and 313

Workshop units

Models 312V / 313
The workshop units 312V / 313 are robust and cost-favorable marking units.

Standard models 312V and 313:
- Size of the marking area (in mm): 51 x 51 and 120 x 20
- Dimensions (in mm): approx. 350 x 460 x 705
- Weight: approx. 25 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

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.

Standard models 312V and 313:
- Size of the marking area (in mm): 51 x 51 and 120 x 20
- Dimensions (in mm): approx. 360 x 160 x 270 and 360 x 160 x 213
- Weight: approx. 5.5 kg
- Marking methods: 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

Built-in units

Models 312V / 313
The marking units 312V / 313 are solid marking units in a compact design. They can be integrated in production lines.

Standard models 312V and 313:
- Size of the marking area (in mm): 51 x 51 and 120 x 20
- Dimensions (in mm): 150 x 150 x 270 and 230 x 156 x 213
- Weight: approx. 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

Compact control system

Controller EK2- / EG2-Box
The marking controllers EK2-Box and EG2-Box are used in marking stations where the workpiece handling is either manual or automatic. The units can be integrated without any additional effort in the direct vicinity of the marking unit. The controller instructions can be linked with the higher-level station control system and are equipped with a MAKRO program.

Control variants
Marking and reading over the process interface

Your higher-level control system
Standard EK2- and EG2-Box: Ethernet, RS232/RS422
Optional EK2- and EG2-Box: Profibus-DP; Profinet-Io; 24 I/O; DeviceNet; Ethernet IP

Why read?
- Reliability for the subsequent scanning processes from continuous checks of the marked DataMatrix code
- 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)