VISION SYSTEM

FOR AUTOMATIC IDENTIFICATION OF MARKINGS
The reading and tracking system is an automatic reading system for many kinds of marked, labelled and printed products. The system allows material tracking from casting to rolling process.

The complete equipment is manufactured using specially selected electrical and mechanical parts that are designed, well tested and proven to function in heavy industries.

Your advantages

- **LARGE RANGE OF APPLICABLE MARKINGS**
  - Alphanumeric Characters; Painted, stamped or on labels
  - 2D Datamatrix code; painted or on labels
  - NUMTEC stamped RH Barcode

- **HIGH READING ACCURACY**
  - Utilising the fault redundancy offered by robust code types or Checksum characters
  - Typical reading performance of this system will be more than 98 %
  - Optimised conditions bring the system up to similar 100 %

- **OPTIMISED LOGISTICS**
  - Marking validation and verification for reliable product tracking
  - Product identification at any product stage of production provides more secure traceability of products
  - Automatic storage of all pictures and products on a database server
### Type of System

- **Reading System**
  - **Stationary**
  - **Handheld**

### Type of Marking

<table>
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<tr>
<th>VS Type</th>
<th>Type Definition</th>
<th>Marking Machine</th>
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<tr>
<td>OCR-S</td>
<td>OCR Reading Stamped Markings</td>
<td>RH, MX, PU</td>
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<tr>
<td>CS-S</td>
<td>Code Reading Stamped Markings</td>
<td>RHBC, MX</td>
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<tr>
<td>OCR-C</td>
<td>OCR Reading Contrast Markings</td>
<td>HS, MP, SN, CJ, DP, LM</td>
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<tr>
<td>CS-C</td>
<td>Code Reading Contrast Markings</td>
<td>CJ, DP, LM</td>
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</table>
The OCR and Code reading system is equipped with CCD camera and adapted lighting equipment. Recognition application runs on an industrial PC.

All reading stations will be connected and integrated into the plant Ethernet system, together with a database server. All pictures/products will be stored permanently on this server for documentation purpose.

OPTIONS
- Other type of interfaces
- Climatisation of components for hot or cold ambient

READING PROGRESS

- IMAGE ACQUISITION
- IMAGE PREPARATION
- CHARACTER RECOGNITION
- RESULT
CAMERA AND LIGHT IN „HEAVY LOAD“ VERSION

- Cooling
- Heating
- Heating protection and rotating plate in front of the windows
<table>
<thead>
<tr>
<th>Usual application</th>
<th>Material tracking, marking control</th>
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<tr>
<td>Machine types</td>
<td>Stationary OCR or Code Reading System, Handheld Units</td>
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### Stationary

<table>
<thead>
<tr>
<th>Type of Markings</th>
<th>TX Marking Machine: Alphanumeric Stamps, NUMTEC Bar Code</th>
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<tr>
<td></td>
<td>HS Marking Machine: Alphanumeric Stamps, Datamatrix Code</td>
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<tr>
<td></td>
<td>MP Marking Machine: Alphanumeric Characters</td>
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<tr>
<td></td>
<td>SN Marking Machine: Alphanumeric Characters</td>
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<td></td>
<td>DotPaint Marking Machine: Alphanumeric Characters, Datamatrix code</td>
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<td></td>
<td>CombiJet Marking Machine: Alphanumeric Characters, Datamatrix code</td>
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<td></td>
<td>Label Marking Machine: Printed Alphanumeric Characters, Datamatrix code, Bar code on Labels</td>
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</table>

### Handheld

- Stamped or painted Datamatrix Code

### Type of Communication

- Ethernet
- ProfiNet RT
- ProfiBus DP

### Options

- Heating
- Cooling
- Heat protection
- Different power supplies
- Central database applications
CAMERA/FLASHLIGHT FOR BRIGHT FIELD ILLUMINATION (CONTRAST MARKINGS)

HIGH POWER FLASHLIGHT FOR DARK FIELD ILLUMINATION (STAMPED MARKINGS)