REA

PRINT | APPLY | VERIFY

The World of Coding and Marking

Product Overview



REA - PRINT | APPLY | VERIFY Industrial Coding, Marking and Verification Systems

In any industrial application where products are labeled or marked or where codes are verified - REA systems are used in thousands of applications worldwide to ensure reliable identification and traceability. From the harsh industrial environment of steel processing plants to the stringent requirements of the packaging, food or pharmaceutical industry - REA is the first choice a wide variety of industries. This includes networked production in line with Industry 4.0.

Since our foundation in 1982, we have been continuously expanding our extensive portfolio for industrial coding and marking with innovative solutions for coding and marking a wide variety of products and surfaces as well as code verification devices. Our development, manufacturing and improvement efforts are all based in Germany. REA Elektronik GmbH is certified according to DIN EN ISO 9001:2015.

Our three product lines offer systems for marking, labeling and code verification from one single source:

- REA JET systems for contact-free marking with large character inkjet printers (DOD), high-resolution inkjet printers (HP and piezo printing technology), small character inkjet printers (CIJ), laser and spray marking technology.
- REA LABEL Labeling systems for a broad range of requirements and applications.
- REA VERIFIER optical verification devices to ensure the quality and readability of 1D barcodes and 2D data matrix codes.

We see ourselves as a system supplier. We develop and deliver solutions from one source - by selecting and combining components from all three product lines to meet the specific requirements.

We offer a wide range of standard coding and marking systems. However, we also excel at implementing custom solutions. Our highly trained and committed employees from a wide variety of specialist areas combine the very latest technologies to create customized solutions for your needs and expectations.

From identifying the right coding and marking system for your needs to selecting the right ink (more than 500 special inks are available) and even professional assembly with customer-specific solutions (mounting brackets, positioning units, robotics etc.) as well as care and maintenance of the systems

High-quality components and the training of your employees guarantee optimum coding and marking results and a high degree of reliability of the systems with minimum maintenance. We respond to customer requests with speed and flexibility and provide competent and unbureaucratic assistance. Because it is not only the quality of our products that makes us successful, but above all your satisfaction.

"Coding and Marking Solutions for Industry - Made in Germany"



The company headquarters of REA Elektronik GmbH, 30 kilometers south of Frankfurt am Main, Germany

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The Benchmark in its Class: Large Character Inkjet Printers (DOD 2.0)



The large character inkjet printing system REA JET DOD 2.0 prints texts, data and logos with a print height of up to 140 mm per print head. The resolution meets the coding and marking requirements for a vast range of industrial applications.

The robust inkjet printer is easy to handle and highly flexible due to the modular design of the system components. The print heads feature 7, 16 or 32 nozzles and can be combined into one printing system - up to 16 print heads per device.

Print head variants:

■ 7 nozzles: single-line marking

with a height of 5 to 27 mm

with a height of 5 to 67 mm

with a height of 5 to 140 mm

■ 16 nozzles: single- to two-line markings

■ 32 nozzles: single- to five-line markings

Areas of application:

- Absorbent and non-absorbent surfaces such as paper, cardboard, metal, glass, ceramic, stone, wood, plastic, rubber, foils, carpet, textiles, fleece, organic surfaces etc.
- Under extreme environmental conditions such as dust, moisture, vibration and temperature fluctuations

Advantages:

- Control via REA JET TITAN Platform
- Potential speeds of up to 600 m/min
- Print heads with cascading capability for printing large surfaces: up to 512 nozzles can be addressed
- REA JET print head technology: robust and reliable
- Economical use of consumables
- Suitable for pigmented and non-pigmented inks
- Protection class IP65
- REA Plug & Print technology: high level of system availability and process reliability thanks to fast changeover system for modular components
- REA Purge & Clean technology: fast cleaning of the print head at the touch of a button
- REA DSC technology: dot size control, freely adjustable drop size for economical use of consumables
- REA Micro-Slanting technology: fine adjustment of height and width ratio of the text to optimize the print image
- Modern interface connection to higher-level software systems for improving efficiency and reliability of production

DOD 2.0 Controller Unit DOD 2.0 32 nozzles Print Head DOD 2.0 Print Heads 7, 16 and 32 nozzles DOD 2.0 Print Head Controller Unit DOD 2.0 Print Head Controller Units

The REA IET TITAN Platform

TITAN The single operating concept for all REA JET technologies.

REA JET Ink Supply Unit TV-PP 4.5 I (AFS) with automatic flushing function





Coding and marking of pipes (steel, plastic etc.)



Marking of aluminum plates



Marking of paper bags



Marking of tread on raw rubber



Coding and marking of shrink hoods



Marking of concrete pipes



Large marking of logos on stacked boards



Coding and marking of sheeting materials

Maintenance-Free Product Marking: High Resolution Inkjet Printers (HP)



The high resolution inkjet printers of the REA JET HR range with HP cartridge technology use thermal inkjet technology that has been tried and tested in millions of office printers. The robust stainless-steel housing, intuitive operation and well-thought-out print head design of this coding and marking system make it fully suitable for industrial applications. The system has proven to be particularly suitable for the pharmaceutical, foodstuffs, wood, paper and packing sectors for

markings with a print height of up to 12.7 mm per print head. Moreover, multiple print heads can be cascaded for greater print heights. Thanks to its integrated Ethernet interface and full Unicode support, the HR printing system is the system of choice for serialization tasks and track & trace projects. Up to 50 serialized prints per second and 762 m/min make the HR system the fastest printing system in its class.

Areas of application:

- Counterfeit protection and traceability
- Perfectly suited for serialization as well as track & trace tasks
- Code quality check in one process with verification systems from REA VERIFIER (see page 18)
- For absorbent and non-absorbent surfaces
- Alphanumeric texts, barcodes, 2D codes (e.g. Data Matrix codes) and logos
- Variable data such as date, time, counter, shift code, database contents
- Excellent print resolution of up to 600 dpi
- Late Stage Customization digital inline printing of variable data

HR Controller for up to four print heads





HR Controller for up to two print heads





Advantages:

- Control via REA JET TITAN Platform
- Simple assembly of print head and controller thanks to compact design and mounting flange
- Stable stainless-steel housing
- Only one device version for all countries thanks to multi-voltage power supply unit (HR 2K/HR 4K) or 24 V device (HR per OEM)
- Full TrueType font and Unicodesupport including UTF-8
- Print height up to 50.8 mm
- Maintenance-free you receive a new print unit with each cartridge change
- Highest level of operational reliability and availability thanks to:
 - Monitoring of cartridge locking
 - Permanent storage of cartridge levels
 - Automatic adjustment of operating parameters for the ink used
 - Intuitive graphical user guidance
- Simple transfer of print data using USB scanner
- Various device versions for standalone operation, installation in switching cabinets and full machine integration
- Ready for Industry 4.0











NiceLabel compatibility: transfer of NiceLabel print layouts using REA JET's own printer drivers.



The REA JET TITAN Platform.
The single operating concept for all REA JET technologies.



UDI marking of packaging material



Two-colored marking of foil



Coding and marking of laminate



Best before label marking



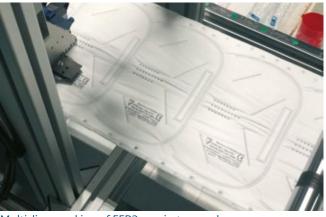
Coding and marking of folding boxes with Data Matrix codes



Marking cardboard boxes with barcodes



Direct marking with the EU plant passport



Multi-line marking of FFP2 respirator mask

Multi-Purpose and Multi-Line: High Resolution Inkjet Printers (Piezo)

[IIIIIIII] HI-RES

The new generation of print heads allows alphanumeric texts, 1D/2D codes and graphics such as company logos or product images to be freely combined. Direct printing on packaging and product surfaces with a horizontal resolution of up to 1200 dpi is a cost-effective and flexible alternative to labels or pre-printed cardboards.

High resolution Piezo Inkjet Printers are ideal for marking cardboard boxes and enable texts, barcodes and logos to be changed quickly and conveniently. Depending on what the user wants, a print height of up to 100 mm is possible per print head.

Areas of application:

- Porous and absorbent surfaces: paper, cardboard boxes, wood, textiles, fleeces, building material etc.
- Flexible alternative to labels and preprinted cardboard boxes
- Serialization and track & trace applications
- Qualitative code check in one process with verification systems from REA VERIFIER (see page 18)
- Alphanumeric texts, barcodes, Data Matrix codes and logos
- Printing of variable data, e.g. date, counter, time, shift code, database contents.

Advantages:

- Control via REA JET TITAN Platform
- Low consumable costs
- Solvent-free REA IET inks
- Printing of up to 42 text lines with a print height of up to 100 mm with a single print head
- High print quality with very good edge sharpness
- Prints codes in optimum quality
- Simple data transmission and backup via USB connection
- Supply line length of up to 5000 mm from print head to ink supply unit
- Modular system design
- Data security for packaging marking with REA JET DataCon software: data management for print assignment from databases

Print head variants - print heights:

- GK 768/256 2 to 100 mm
- GK 384/128 2 to 50 mm
- Protection class IP64







Print head GK 768 with integrated ink supply unit for marking on side

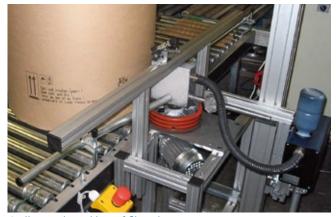


marking on side

NiceLabel

NiceLabel compatibility: transfer of NiceLabel print layouts using REA JET's own printer drivers.

The REA IET TITAN Platform



Coding and marking of fiber drums



Cascaded GK 2.0 print heads for logo marking



Marking of cardboard boxes



Marking of paper bags



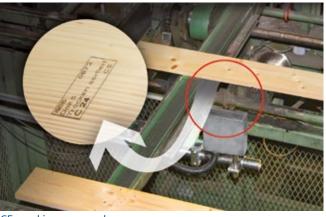
EPAL logo marking on wooden pallet blocks



Marking of OSB panels with logo



Marking of gypsum boards with large logos



CE marking on wood

Small Text, big Impression: Small Character Inkjet Printers (SC 2.0)

CIJ

new SC 2.0, one- to eight-line texts, data, barcodes, Data Matrix codes and logos are printed in a contact-

No other coding and marking technology has made a greater contribution to consumer safety and information in our everyday lives than continuous inkjet technology (CII). This is clear to see from the areas of foodstuffs and product packaging alone. With the

Areas of application:

- Used in virtually all branches of industry for marking smooth surfaces such as foil, laminate, plastic or metal.
- Various data printing, e.g. counter, date, time, best before date, shift code, serialized data for traceability, machine-readable codes (barcodes and 2D matrix codes)

REAJET SC 2.0 Small Character Printer REA JET

REA JET SC 2.0 Trolley with

integrated print head cleaning station

Advantages:

■ Control via REA JET TITAN Platform

with a very short drying time.

Compact and robust - designed for industrial use

free process - in high resolution, at fast speeds and

- Contact-free coding and marking, even at a larger product distance
- Top print quality
- Stainless steel housing, IP54
- Various hose assembly lengths available
- Vertical resolution: 48 pixels for up to eight lines of text
- Various data printing, e.g. counter, date, time, best before date, shift code, serialized data for traceability, machine-readable codes (barcodes and 2D matrix codes)
- Short drying time on smooth surfaces
- High production and marking speeds
- Perfectly suited for integration thanks to the latest interface technology
- Print head suitable for assembly on motion devices
- No manufacturer-specific cartridge system ensuring maximum flexibility
- Service-friendly design
- Safe and clean filling of ink and solvent, even during operation
- Intuitive user interface, e.g. for commissioning and diagnosis
- Differentiable user levels for the highest process reliability
- Integrated web server enables operation of printing system via PC, tablet or smartphone
- Full Unicode support for companies with international customers
- Integrated VNC server: remote maintenance tool
- Low weight, only approx. 20 kg
- Ready for Industry 4.0



The REA IET TITAN Platform. TITAN The single operating concept for all REA JET technologies.



Marking of aluminium caps



Marking of plastic paint buckets



Expiration date on tube fold



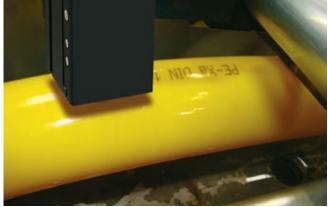
Marking of toothed belts



Coding and marking of plastic profiles



Marking of packaging foils



Marking of plastic pipes



Best before date marking on jam tins

Counterfeit-Proof and Permanent Marking with Light: Laser Systems

LASER

Industrial coding and marking with laser systems offers a clear advantage. Since they require no consumables and are virtually maintenance-free, subsequent costs are low. Laser systems are suitable for all kinds of marking on almost any material and for color removal

on all surfaces. One of the main reasons for using laser systems is protection against counterfeiting and traceability of products thanks to the permanence of the marking.

Areas of application of the REA JET CL CO₂ Laser:

- Coding and marking of glass, wood, rubber
- Engraving and color change for plastics (automotive, medical, consumer goods)
- Marking of folding boxes and outer packaging (e.g. in pharmaceutical, cosmetic and foodstuff segments)
- Coated substrates (e.g. anodized aluminum)
- Direct marking of foodstuffs
- Coding and marking following laser color change
- Color mirror engraving, e.g. in combination with the REA JET Spray Mark Technology (see page 14)

Areas of application of the REA JET FL Fiber Laser:

- Engraving and annealing on metals
- High-contrast marking of plastics
- Marking of ceramics
- Coating removal, e.g. for day and night design
- Coding and marking of foils

Advantages:

- Control via REA JET TITAN Platform
- Simple mechanical integration thanks to compact design and versatile connection
- High marking speeds thanks to digital mirror activation
- Integrated pilot laser for simple and precise system setup
- Machine conformity thanks to two-channel interlock with performance level d
- Full TrueType font and Unicode support including UTF-8
- Network capability and interface protocols via Ethernet











CL Laser Unit IP65, dust- and splash-proof









FL Controller





FL Controller

REA laser marking station as flexible manual work station



TITAN The single operating concept for all REA JET technologies.



Marking of coffee capsules



Color change on silicone hoses



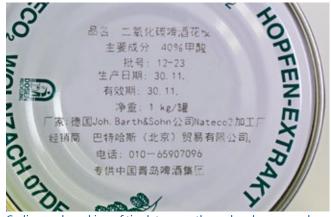
Coding and marking of glass with CO₂ laser IP65



Marking of 2D codes on particle filters



Coding and marking of plastic profiles



Coding and marking of tinplate cans through color removal



Wood marking with CO₂ laser



Coding and marking of packaging through color removal

Dots, Lines, Large Marking: Spray Mark Systems

Color markings play a key role in many technical fields. In industrial processes, colors and markings indicate the quality and condition of products, control processes and determine actions to be taken. They range from red error markings to notifications of tested quality in green

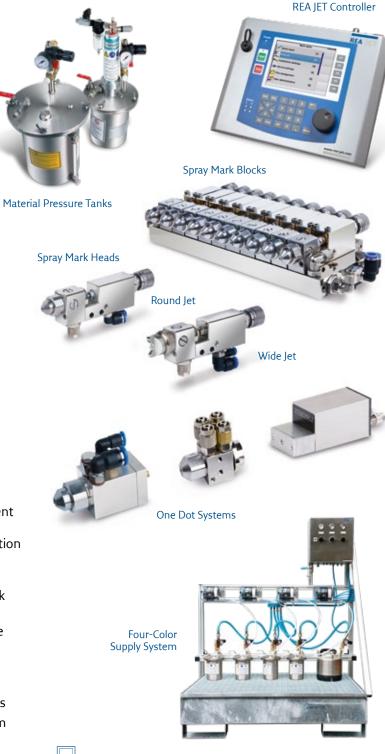
or a colored marking for quality, type or installation location. REA Spray Mark Technology offers even more: Spray mark heads arranged in a spray mark block enable large texts to be written with a height of up to 660 mm. Dot by dot!

Areas of application:

- For absorbent and non-absorbent surfaces
- Metallic surfaces up to a temperature of 1000 °C
- Dots and lines with a diameter between 3 and 30 mm
- Large texts with spray mark blocks
- Colored line marking for pipes, profiles and continuous material
- Multi-colored dot, colored ring and line marking for product type differentiation
- Welded seam marking for manufacturing of pipe profiles, pipes and steel profiles
- Machine-readable line markings for edge trimming
- Applying location, position, bending and cutting markings
- Two-dimensional application of contrast colors ("color mirror") for subsequent coding and marking (inkjet, laser)
- Application of primers, separating agents, adhesives etc.

Advantages:

- Control of spray mark blocks via REA JET TITAN platform
- If desired, we deliver complete marking equipment worldwide with ink supply cabinets, linear axes and robot technology for simple and fast integration into new and existing production systems
- Large selection of processable media including: inks, paints, lacquers, adhesives, resins, hot mark paints and heat-resistant paints
- Integrated flushing device guarantees immediate availability
- Coated nozzles and air control heads to prevent material adhesion
- Fast changeover system for modular components
- REA Plug & Print technology (high level of system availability and process reliability)
- Exactly reproducible spray mark results thanks to precision notch setting and nozzle adjustment





The REA JET TITAN Platform. TITAN The single operating concept for all REA JET technologies.



Marking of aluminum ingots



High-point marking on tires



Marking of steel springs for type classification



Color marking of wire cables



Marking of steel billets - spray mark block on robot



Ring marking of steel pipes



Control line on PE foil tube



Precise application of oil on plastic parts

Tailor-Made Solutions for Logistics and Automation: Labeling Technology



Like the rest of our product portfolio, our labeling systems are designed for reliable operation in a challenging industrial environment. The REA LABEL systems are efficient and flexible thanks to their modular design and user-friendly operation.

What's more, the use of high-quality material makes them highly robust. They are the first choice for a multitude of fully automatic labeling applications in an extremely broad range of industrial sectors.







REA LABEL DLS Pass-through labeler



REA LABEL DS Print and Apply System

Top flexibility for label printing

Needs-based label printing for daily labeling tasks by custom-designing your plain and pre-printed labels. We are a certified partner of the following manufacturers:













Standardized and customized software solutions

REA LABEL offers professional software solutions for designing and printing your labels. Standard software from NiceLabel, Codesoft and Sentinel form the basis of these and can be customized to meet your needs.







Pallet labeling in conformity with CCG/GS1, one stop for two sides

REA LABEL



Dual side labeling on long side and back



Pallet labeling (one stop for two sides)



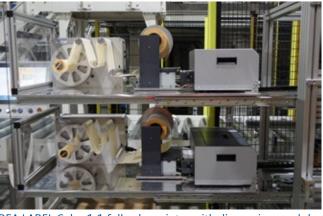
Flexible robot labeling system



Multi-sided canister labeling



Labeling of food packaging



REA LABEL Color 1:1 full color printer with dispensing module



Robot labeling of pallets



Robot labeling of pallets

Code Verification Systems from REA VERIFIER Industry 4.0 Quality Assurance



Today, virtually every product we encounter in modern life carries coded information. Manufacturer data, product identifications, prices, article numbers and much more are converted into machine-readable barcodes and 2D codes. These must be read quickly, reliably and without any errors at supermarket checkout counters and in many areas of logistics.

To ensure high first-pass read rates in automated processes, adherence to high code quality and applicable standards is essential. REA VERIFIER offers optical verification systems for checking 1D and 2D codes in order to verify your code quality and eliminate the risk of error and potential further costs.

Areas of application:

- Verification of quality of 1D and 2D codes in accordance with international standards and GS1 specifications
- Verification of codes for accuracy of content
- Automated spot checking
- Incoming and outgoing goods inspection
- ISO/IEC 15415, ISO/IEC 15416, ISO/IEC 29158 (DPM)

Advantages:

- Avoidance of rejects by detecting incorrect coding and marking early on
- Ensures high first-pass read rates
- Low risk of complaints
- Measurement report with evaluation of code criteria (e.g. also for ISO certification)
- Legal certainty through adherence to quality standards (ISO/IEC, GS1 etc.)
- Mobile and stationary devices, can be used with flexibility
- Checking codes of virtually any size
- Large number of equipment variants and accessories for a wide range of applications
- Choice of lighting options (red light, white light, diffused red light, UV light, IR light)
- AuditTrail with Active Directory connection (21 CFR Part 11)
- REA VeriMax including protocol-oriented programming interface with detailed documentation for integration into the machine software









(compact, for barcodes, mobile)

REA ScanCheck 3 (universal, for barcodes, mobile)

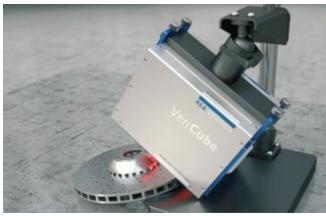


Solution Partner REA Elektronik GmbH

REA VERIFIER



Verification of Data Matrix codes on product packaging



Stand solution for code verification on 3D objects



Flexible verification of barcodes on site



Creation of test reports on site



Verification of barcodes on metal drums



Code verification device integrated into the packaging machine



Measuring of barcodes on print sample sheets



Quality verification of barcodes

REA JET TITAN Platform: The Single Operating Concept for all REA JET Technologies













With the REA JET TITAN Platform, we offer an operating concept for all REA JET coding and marking technologies that is truly compatible with any system. The advantages are obvious: As soon as the operating logic for a technology, i.e. for a REA JET product, has been learned and understood, all other technologies can be operated in the same manner without any need for further training. This saves time and money while significantly reducing the risk of incorrect use.

It doesn't matter which input concept you prefer for commands and data. We offer the largest selection of operating options that has ever been offered. Everything that is modern, future-proof and safeguards the value of your investment is already on board and integrated for use all over the world: from the interface architecture to design freedom of all international fonts, characters and languages and even state-of-the-art remote control technology.

Ready for immediate use - anywhere in the world

- Full Unicode support: all world languages can be printed for companies with international customers
- Support for all TrueType Fonts: greatest possible design freedom for your printed texts
- XML-based data structure and communication protocol: global standard for data compatibility
- Integrated VNC server: remote maintenance tool for diagnosis and help if needed
- Standard communication protocol for status monitoring that is suitable for all devices and enables customer-specific signal processing
- Universal graphical user interface in WYSIWYG format: accurate display of print contents
- Integrated web server enables operation of printing system via PC, tablet or smartphone

Operation without limitations - now, everything is easier



Operation with gloves

Central push-turn jog-dial knob for operation with gloves directly on the production line



PC operation

Remote control using a PC workstation or production control station via network



Touch operation

Touch-sensitive screen for operation directly on the production line



Remote maintenance

Option for remote maintenance and operation via VNC server



WLAN browser operation

Browser operation using mobile devices (PC, tablet or smartphone) via WLAN / WebGUI



Keyboard input

For recurrent, large text entries on the production line, international USB keyboards can be used

A Comprehensive Range: Inks, Paints and Consumables



REA JET develops and markets inks, paints, primers and cleaning agents for virtually every coding, marking and spray mark application worldwide. Chemical compatibility and interaction with all components of the REA JET product families are given top priority when releasing consumables for use in REA JET coding and marking systems. This ensures fault-free operation of REA JET industrial printers in manufacturing.

Furthermore, the use of original REA JET inks, paints, primers and cleaners guarantees reliable operation of our systems. We offer a broad selection of over 500 standard and special inks in our portfolio.

Moreover, the quality of our consumables is constantly safeguarded using the very latest development and testing methods.

- More than 500 standard and special inks in our portfolio
- Container sizes ranging from an HP cartridge to a 200-liter drum
- Development of customer-specific inks and paints
- Industry solutions and formulations for medical and pharmaceutical packaging, building materials, plastics, foodstuffs, the tire industry, metal, wood, stone, carpet, fleeces and all other kinds of packaging
- State-of-the-art development and testing methods secure the quality of our inks, paints and cleaners

Please note:

- Inks and paints are available with a very wide range of chemical compositions; these need to match your product
- Criteria such as drying speed, UV resistance, durability, material compatibility, text accuracy, coverage ratio, color etc. must be matched to your specific requirements and the conditions on site
- Our experts create print samples under field conditions and recommend an appropriate overall solution



Universal cleaner

We offer our customers a non-flammable universal cleaner for contaminated workplaces and factory equipment, which is exempt from the labeling obligation. With the REA JET BC-1 400 cleaner most dried inks, primers and paints - not just those from REA JET - can be turned back into liquid and then removed.

Ribbons and labels

We sell ribbons (thermal transfer foils) and labels in a wide range of qualities, sizes and specifications for all standard label printers (thermal transfer printers).

Always Ready to Help: Service from our Specialists

Cutting-edge technologies and dedicated employees from various departments are a major reason why our products are successful and our customers are satisfied.

Fast and flexible reaction to customer requests as well as competent and unbureaucratic help are services that further underline the quality of REA products.



Always up to date: Individual Product Training

Training courses are offered for the complete REA JET, REA LABEL and REA VERIFIER product ranges. These courses are geared toward your individual needs, ensuring that your investment your investment in staff training really pays off.

Proper system handling, maintenance and care during operation and knowledge of the required measures for fault correction ensure the highest level of availability of your coding and marking system.





We are where you are: Worldwide

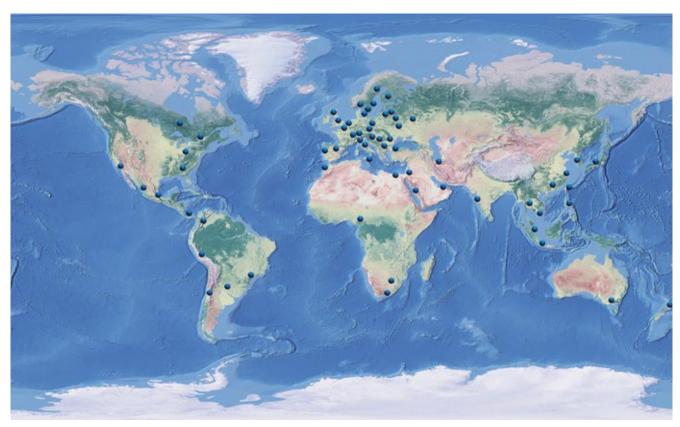
REA is an international company represented on every continent by its own subsidiaries and distribution partners. As a result, we can guarantee a reliable consulting and service network while being close to the markets and our customers all over the world.

The REA JET brand stands for a comprehensive range of systems in the field of industrial coding and marking. For over 35 years our industrial printers have been in use in a vast range of applications in almost every sector.

From the tough conditions of the steel working industry to the stringent regulations of the pharmaceutical sector, REA JET systems are in operation every day.

We offer solutions to help you meet the various coding and marking requirements of trade and industry in an efficient and economical way: from the standardized system configuration to tailor-made solutions in combination with the right inks for completely unique marking.

As such, our systems make an important contribution to the clear identification and traceability of products, both within internal logistics and in worldwide goods flows.



Worldwide REA JET subsidiaries and distribution partners.

REA

PRINT | APPLY | VERIFY





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