

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



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.

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

Print head variants:

- 7 nozzles: single-line marking with a height of 5 to 27 mm
- 16 nozzles: single- to two-line markings with a height of 5 to 67 mm
- 32 nozzles: single- to five-line markings with a height of 5 to 140 mm





Print Head Controller Units

Print Heads 7, 16 and 32 nozzles



REA JET Universal Controller



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



5 I Ink Supply Unit



REA JET Universal Controller Touch



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



Marking of paper bags



Coding and marking of shrink hoods



Marking of aluminum plates



Marking of tread on raw rubber



Marking of railroad sleepers



Large marking of logos on stacked boards



Coding and marking of sheeting materials

Maintenance-Free Product Marking: **High Resolution Inkjet Printers (HR 2.0)**

With the high-resolution REA JET HR printing product family, REA has had the world's most powerful HP-based printing system on the market for years. The decisive features: It is completely service- and maintenance-free, and that at high resolution.

For smooth and absorbent materials and the printing of machine-readable codes, this technology is more and more the first choice when variable shelf life, batch information and codes need to be printed reliably at sometimes breakneck speeds.

The new HR generation is significantly more compact and therefore more flexible and even easier to integrate. The sturdy aluminium housing, intuitive operation and

Areas of applications:

- Counterfeit protection and traceability
- Ideally suited for serialization as well as track & trace applications
- For smooth, absorbent and non-absorbent surfaces
- Alphanumeric texts, barcodes, 2D codes (such as Data Matrix codes) and logos
- Variable data such as date, time, counter, shift code, database contents

Advantages:

- Based on thermal inkjet printing technology, proven in a million uses
- Extremely high resolution at high product speed
- Maximum print triggering of up to 1500 dpi adjustable in 26 levels
- Print heights up to 50.8 mm
- Easy handling via touch or rotary/push operation on the controller

Loftwar

Lever mechanism for a quick and even easier cartridge change

REA IET Universal Controller Touch

REA IET Universal Controller





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



new print head design make the coding and marking system suitable for unrestricted industrial use.

The system has been particularly successful in the pharmaceutical, food, wood, paper and packaging industries for markings with a print height of up to 12.7 mm per print head. Multiple print heads can be cascaded for larger print heights.

With its integrated Ethernet interface and full Unicode support, the HR is the first choice for serialization tasks and track & trace projects. Up to 80 serialized prints per second and 762 m/min make it the fastest printing system in its class.

- Simple, intuitive operation thanks to the crosstechnology REA JET TITAN platform
- Ouick cartridge change

Compacte HR 2.0

Print Heads

- Maintenance- and service-free you get a new print unit each time the cartridge is changed
- Structurally compact, flexible and easy-to-integrate print head
- Maximum operating reliability and availability
- Optional bulk supply for interruption-free printing for large throughput volumes
- High-quality verification of the code quality in a process with REA VERIFIER verification systems
- Control via REA JET TITAN Platform



UDI marking of packaging material



Two-colored marking of foil



Coding and marking of laminate



Best before label marking



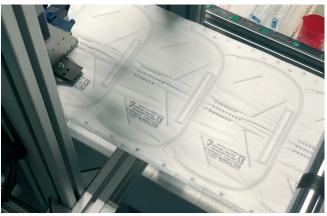
Coding and marking of folding boxes with Data Matrix codes



Marking cardboard boxes with barcodes



Direct marking with the EU plant passport



Multi-line marking of FFP2 respirator mask

Faster, higher contrast- more reliable: High Resolution Inkjet Printers (UP Piezo)



The multi-talented REA JET UP (Universal Print) is a rugged high resolution inkjet printer based on piezo technology.

It marks without contact not only on absorbent surfaces, even on smooth substrates such as painted and lacquered cardboard. With a print height of up to 108.37 mm and a resolution of up to 1500 dpi, it prints with high contrast and reliability - even small characters are very legible.

Areas of applications:

- Porous and absorbent surfaces: paper, cardboard boxes, wood, textiles, fleeces, building material etc.
- Alphanumeric texts, machine-readable 1D and 2D codes, and logos
- Variable data such as date, time, counter, shift code, database contents, etc.
- Serialization and track & trace applications
- Qualitative code check in one process with verification systems from REA VERIFIER (see page 18)
- Flexible alternative to labels and preprinted cardboard boxes

Advantages:

- Industry-independent marking of absorbent, smooth, painted surfaces
- Large print heights of up to 108.37 mm for freeform print layouts
- Up to three times higher speed compared to other systems
- High-contrast print results for very good first code reading rates
- High flexibility thanks to cascading of several print heads
- Low printing costs and reduction in maintenance work
- Perfect print quality even under rough operating conditions and at high speeds

A variety of inks are available for marking: From oil and light solvent-based inks to UV-curable ones for surfaces where no other would dry.

Thanks to the new generation of print heads and circulating ink that prevents nozzle failure, the REA JET UP reliably delivers flawless print images even under harsh ambient conditions – at up to three times the speed of conventional technologies.



REA JET UP with Touch Controller

- Innovative REA inks with high drying speed, UV-based, oil-based, light solvent-based, etc.
- Next generation: Newly developed recirculating ink supply unit with shatterproof glass tank and an integrated RFID reader that ensures the correct ink is used
- No nozzle failure due to ink recirculation
- Cost savings thanks to direct printing compared to label storage, purchase, removal
- Easy handling via touch or turn/push operation on the controller
- Control via REA JET TITAN Platform



Versatile and Multiple: High Resolution Inkjet Printers (GK 2.0 Piezo)

[|||||||||] 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
- Alphanumeric texts, barcodes, Data Matrix codes and logos
- Printing of variable data, e.g. date, counter, time, shift code, database contents

Advantages:

- Low consumable costs
- Solvent-free REA JET inks
- Selectable horizontal print resolution up to 1200 dpi
- Very high font and code quality, sharp edges and high contrast
- Easy data transfer and data backup via USB connection
- Available in fixed and hose versions (with 1 m hose) with the following print heights 50 mm or 100 mm
- Creation of label or print layouts with the REA JET Label Creator or also directly on the printer
- Easy operation and maintenance

Kachelbasiertes REA JET

Universal Steuergerät Touch

Control via REA JET TITAN Platform



Print head GK 384 and ink supply unit



Print head GK 768 and ink supply unit with umbilical connection (100 cm) for flexible print head alignment



.

TITAN







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



No other coding and marking technology has made a greater contribution to consumer safety and information in our everyday lives than continuous inkjet technology (CIJ). This is clear to see from the areas of foodstuffs and product packaging alone. With the new SC 2.0, one- to eight-line texts, data, barcodes, Data Matrix codes and logos are printed in a contactfree process – in high resolution, at fast speeds and with a very short drying time.

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)



Advantages:

- Compact and robust designed for industrial use
- 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
- Control via REA JET TITAN Platform



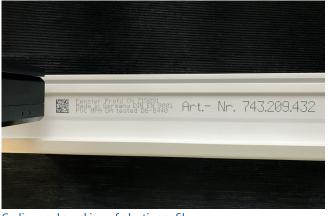
REA JET SC 2.0 Trolley with integrated print head cleaning station



Marking of aluminium caps



Expiration date on tube fold



Coding and marking of plastic profiles



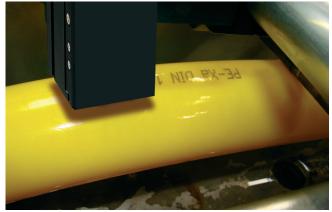
Marking of plastic paint buckets



Marking of toothed belts



Marking of packaging foils



Marking of plastic pipes



Best before date marking on jam tins

Counterfeit-Proof and Permanent Marking with Light: Laser Systems



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

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



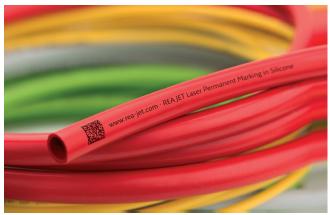


Compatibility: transfer of Loftware NiceLabel NiceLabel print layouts using REA JET's own printer drivers. on all surfaces. One of the main reasons for using laser systems is protection against counterfeiting and traceability of products thanks to the permanence of the marking.





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!

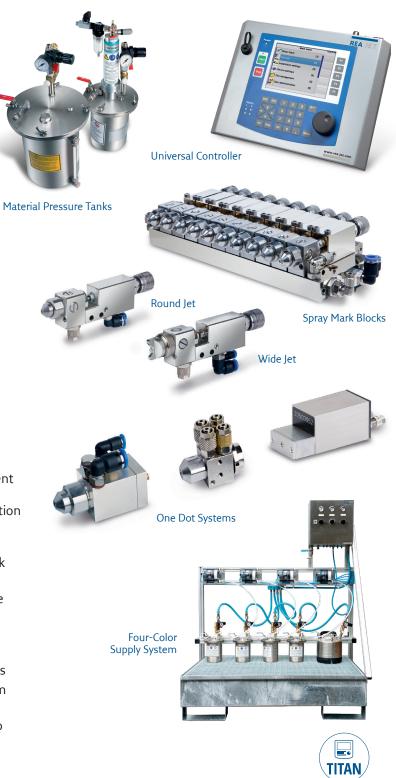
ST

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.

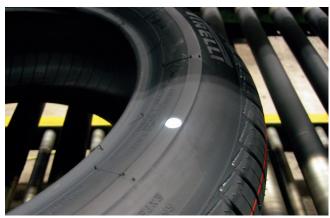
Advantages:

- 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
- Control of spray mark blocks via REA JET TITAN platform

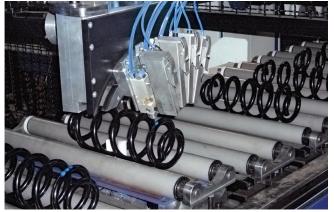




Marking of aluminum ingots



High-point marking on tires



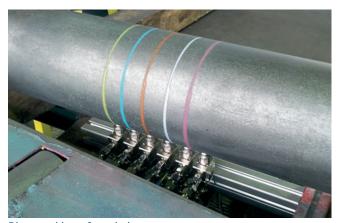
Marking of steel springs for type classification



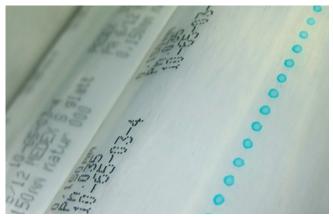
Color marking of wire cables



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)



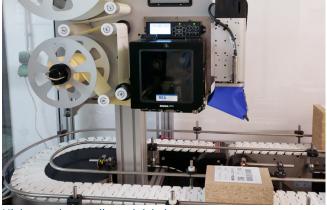
Flexible robot labeling system



Multi-sided canister labeling



Labeling of food packaging



High-speed servo dispatch labeler



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.

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



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.



REA ScanCheck 3 (universal, for barcodes, mobile)





REA VERIFIER



Verification of Data Matrix codes on product packaging



Flexible verification of barcodes on site



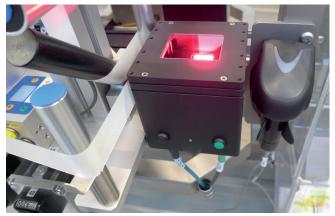
Stand solution for code verification on 3D objects



Verification of transport labels



Verification of barcodes on metal drums



Code verification device integrated into the packaging machine



Measuring of barcodes on print sample sheets



Verification of metal parts

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



Touch operation

Touch-sensitive screen for operation directly on the production line



WLAN browser operation

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



PC operation

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



Remote maintenance

Option for remote maintenance and operation via VNC server



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.





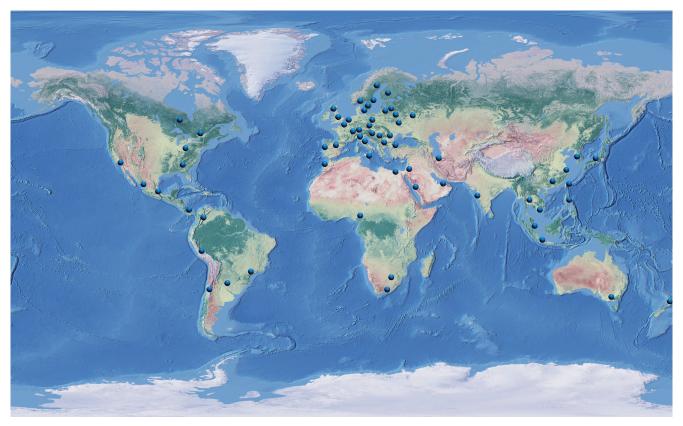
We are where you are: Worldwide

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.

www.rea-jet.com

www.rea-label.com

www.rea-verifier.com







REA Elektronik GmbH

Teichwiesenstrasse 1 64367 Muehltal Germany T: +49 (0)6154 638-0 F: +49 (0)6154 638-195 E: info@rea-jet.de www.rea-jet.com