

Bradma **Automating The Future** 





STAINILESS STEELSON



### CONVENTIONAL MARKING SOLUTIONS





- Perfect for composing multi character data.
- Suitable for part numbering, batch & date coding on Steel, Aluminium, Brass, Plastic, Paper etc.
- IST is made from high quality tool steel, letters and numbers are formed by unique cold forming process.
- Sets are available with or without holder.

### HIGH PRECISION STAMP MARKS



- Made from high quality, heat treated tool steel, finely balance with liberal overall shank size.
- Ensures deep, clear and legible stamped impression, safeguards against mushrooming, chipping and splitting of hammering end.
- Each punch is clearly marked with character designation and size.

AUTOMATIC ROTARY NUMERATORS



- Custom made stamp marks with total precision, with fidelity to every logo.
- Precision designed cutting edge geometry for clear and long lasting marking of logos.
- Reduce stress concentration on the marked surfaces.
- Controlled hardening and tempering process to ensure marking reliability and longer service life.
- Dull Nickel Plated to resist rusting of stamp marks.



- Serial numbers can be marked on metal parts in simple operation.
- Special design ensures that numbers advance one at time accurately and automatically.
- Impression are perfectly aligned, evenly spaced, uniformly deep component after component.
- No riveted assembly easy to dismantle and clean by user.

### **CONVENTIONAL MARKING SOLUTIONS**

### Bradma Automating The Future



- Made of rugged cast iron frame, specially hardened ground steel components.
- Ideal for wide range of label sizes.



# CONVENTIONAL MARKING SOLUTIONS



- Rugged bench model
- Automatic compensation for variations in workpiece diameters
- High production rates. Easy to operate
- Flat marking, round marking or curved marking
- Quick set-up ti me
- Serial numbers can be marked with automatic indexing
- Can mark upto 3 lines of 3mm characters
- Stress relieved.
- Open back permits marking of long bars.
- Serial numbers can be marked with automatic indexing.
- Ample daylight permits extensive use of fixturing and tooling
- for almost all shapes and sizes of components.
- One master foot-pedal control for operating table and die slide cylinders in proper sequence.





### PNEUMATIC ROLL MARKING / MODEL RP 50





- Rugged bench model
- Automatic compensation for variations in workpiece diameters
- High production rates. Easy to operate
- Flat marking, round marking or curved marking
- Quick set-up ti me
- Serial numbers can be marked with automatic indexing
- Can mark upto 3 lines of 3mm characters

### HYDRAULIC ROLL MARKING / MODEL RH 200

- Easy to operate
- Automatic compensation for variation in workpiece diameters.
- Rigidly fabricated, reinforced steel frame.
- Stress relieved.
- Can mark round workpiece upto 200 mm diameter.
- Can mark fl at workpiece upto 170 mm thickness.
- Open back permits marking of long bars.
- Serial numbers can be marked with automatic indexing.
- Can make upto 4 lines of 6 mm characters, or 8 lines of 3mm
- characters.
   Ample daylight permits extensive use of fixturing and tooling for almost all shapes and sizes of components.
- Electrically controlled hydraulic operations: hydraulic cyclinders operate table and marking die slide.
- Table pressure controls depth of mark : ensuring uniform depth.
- One master foot-pedal control for operating table and die slide cylinders in proper sequence.
- Specially designed cyclinder fitted with hardened bearing.





### ELECTRIC BENCH TOP

### BENCHMARK 320

The BenchMark 320 is an extremely versatile yet economically priced BenchTop marking system. It offers a generous 4" x 6" (100mm x 150mm) marking window large enough to satisfy almost any application. Its unique marking arm design is extremely convenient for parts loading and unloading as well as marking pattern design. The system is self-contained with compact controller and rugged extruded aluminium mounting post and base.





The TMP3200EAS is a special electromechanical pin confi guration of the versatile TMP3200 PINSTAMP® marking head, specifically developed for 2-D code applications. It is easily integrated into either on or off-line applications and includes an electromagnetic marking pin and an AUTOSENSE motorized Z-Axis mounting post that ensures a consistent pin stroke for highly repeatable 2-D cell sizes. No operator intervention is required -- pattern specific standoff setting ensures that the critical standoff distance is consistently repeated -- A great tool for multiple plane marking. The TMP3200/470EAS Single Pin Marking System features a large 4 " x 6" (100mm x 150mm) marking window, and marking speeds up to 2.5 characters-persecond. Well suited for both bench top and factory-automated applications, its robust dual stepper motor X/Y platform yields high quality characters and low maintenance operation.





The TMP1700EAS is a special electromechanical pin configuration of the versatile TMP1700 PINSTAMP® marking head, specifically developed for 2-D code applications. It is easily integrated into either on or off-line applications and includes an electromagnetic marking pin and an AUTOSENSE motorized Z-Axis mounting post that ensures a consistent pin stroke for highly repeatable 2-D cell sizes. No operator intervention is required – pattern specific standoff setting ensures that the critical standoff distance is consistently repeated -- A great tool for multiple plane marking. The TMP1700/470EAS is the lowest cost electromechanical PINSTAMP® marking system. The rugged TMP1700EAS marking head features a compact, 1-1/2<sup>″</sup> x 2-1/2<sup>″</sup> (38.1mm x 63.5mm) window, and marking speeds up to six characters-per-second. It's an excellent choice for many factory-automated or on-line processes.



TMP6100EAS

The TMP6100EAS is a special electric pin configuration of the versatile TMP6100 PINSTAMP® marking head, specifi cally developed for 2-D code applications. It is easily integrated into either on or off-line applications and includes an electromagnetic marking pin and an AUTOSENSE motorized Z-Axis mounting post that ensures a consistent pin stroke for highly repeatable 2-D cell sizes. No operator intervention is required – pattern specific standoff setting ensures that the critical standoff distance is consistently repeated -- A great tool for multiple plane marking. Since the marking pin can be positioned anywhere in the generous 6″ x 12″ (152mm x 304mm) marking window, the TMP6100EAS can mark any character height, style or number of lines desired. Its robotic design allows clear access to the marking window for loading and unloading of parts.





# ELECTRIC HAND HELD





The BenchMark 460 is a fully programmable, cost effective alternative to old fashioned permanent marking techniques for parts too large or heavy to be carried to a marking solution. Its hand-held marking head is lightweight and ergonomically designed, while providing a generous  $1" \times 4"$  (25mm x 100mm) marking window. An electromechanical marking pin eliminates the need for any air supply, making the BenchMark 460 truly portable.



The NOMAD 2000 is a fully portable, rechargeable, battery powered handheld marking system. Mark up to .005 inches (0.125mm) deep in mild steel with the robust yet highly portable NOMAD 2000 hand held marking system. With an electromechanical pin that eliminates the need for any air supply, the NOMAD 2000 is the perfect choice for applications requiring both portability and durability.





Mark up to .018 inches (0.46mm) deep in mild steel with the extremely robust yet highly portable PINSTAMP® Model TMP4500/470E hand held marking system. With an electromechanical pin that eliminates the need for any air supply, the TMP4500/470E is the perfect choice for applications requiring both portability and deep penetration marking.





The NOMAD 4000 is a fully portable, rechargeable, battery powered handheld marking system. Mark up to .011 inches (0.3mm) deep in mild steel with the extremely robust yet highly portable NOMAD 4000 hand held marking system. With an electromechanical pin that eliminates the need for any air supply, the NOMAD 4000 is the perfect choice for applications requiring both portability and durability.





### **PNEMUTIC** BENCH TOP



The TMP 1700/470 is the lowest cost PINSTAMP marking system. The rugged TMP 1700 marking head features a compact 1-1/2" x 2-1/2" (38.1mm x 63.5mm) window, and marking speeds up to six characters per second. It's an excellent choice for any factory automated or online process.





The TMP 3200/470 single pin marking system features 4" x 6" (100mm x 150mm) marking window, and marking speed upto 6 characters per second. Well suited for both bench top and factory automated applications, it is simple, yet robust belt-driven dual rail, X/Y platform yields high quality characters and low maintenance operation.









The TMP 6100 is the most versatile PINSTAMP marking head. It is easily integrated into either on or off-line applications. the Since marking pin can be positioned anywhere in the generous 6" x 12" (152 mm x 304 mm) marking window. The TMP 6100 can mark any character height, style or number of lines desired. Its robotic design allows clear access to the marking window for loading and unloading of parts.





The TMP 7000/470 is a robust single pin marker targeted at applications requiring extremely deep penetration marking. Its 4" x 6" (100mm x 150mm) marking window is ample for a wide range of applications and its TMC 470 controller allows it to be easily integrated into most automated application.



# PNEMUTIC HAND HELD



The PINSTAMP® TMP4210/470 is an extremely lightweight, hand-held, single pin marker satisfying a wide range of portable marking applications. Its robust rack-andpinion design and compact envelope also make it the right choice for many high production, on-line applications.

TAAPA



The innovative dual-pin TMM 4215 provides a 4" x 0.5" (100mm x 13mm) marking window, twice as large as that of the TMM 4200. This lightweight, compact marker is available in both fixture and hand-held configurations.







The TMP4750 is the latest addition to the PINSTAMP® line of dependable dot peen marking systems. Available in both handheld and fixed mount models, the TMP4750 features a heavy duty stepper motor with rack and pinion drive for superior marking performance.



### SPECIALITY



The PINSTAMP® TMM7200/470 is an extremely heavy duty multiple pin marking system confi gured on a "per project" basis to provide optimum solutions for individual applications. The TMM7200 is the right choice for the deep penetration marking required for large character sizes, or when marking especially rough surfaces. The fl exible TMM7200 can be equipped with up to 21 marking pins, allowing it to print 21 characters in 1.5 seconds. In addition, marking pins can be located on varying horizontal and vertical center distances from 0.25″ (6mm) to 1.75″ (44.5mm) to provide a wide range of very large marking windows.





Mark up to six characters-per-second with the PINSTAMP® TMM5100/470 Multiple Pin Marking System. Its lightweight, compact design and minimal footprint are ideal for handheld, stand-alone or completely integrated, factory automated operations. A variety of pin sizes/confi gurations are available to mark character heights from .04" - .63" (1mm - 16mm) on a wide range of materials.





Equipped with eight marking pins, the TMM 5400E/470 is the fastest dot peen marker available. Its speed and its compact envelope makes it the perfect solution for many on-line, high speed marking application.





The state-of-the-art servo-driven SS3700/470 Telescribe® Marking System provides permanent low-noise marking at speed/depth combinations not previously attainable. Virtually silent, the SS3700's robust X/Y platform provides an ample 6" x 2" (152mm x 51mm) marking window, making it the optimum choice for many both manual and automated VIN marking applications, especially those with speed/depth requirements beyond those of traditional stepper motor-driven designs.





### SPECIALITY







The powerful, extremely heavy duty SC5000/470 is the right choice when deep, low noise marking is required. It is especially well-suited for VIN (Vehicle Identification Number) marking application.



Virtually silent, the economical Telescribe® SC3500 inscribes high quality, continuous line characters in most metals and plastics. It is well suited for a wide range of automated on-line and stand-alone bench top applications.







The powerful, extremely heavy-duty Telescribe® SC6000 is the right choice when deep, low noise marking is required. It is especially well-suited for VIN (Vehicle Identifi cation Number) marking applications as the marker can meet the .3mm export specifi cation.



**SC2500** 

The SC2500 and SC2000 Telescribe® Marking Systems provide permanent low-noise marking in a more compact footprint. The robust X/Y stepper motor driven platform provides an ample 3.94" x 1.57" (100mm x 40mm) for the SC2500/470 or a 2.95" x 1.57" (75mm x 40mm) marking window for the SC2000/470. Both are offered with a wide selection of marking pins and make it an excellent choice for many manual and automated marking applications, especially those with speed/depth requirements beyond those of traditional stepper motor-driven designs. This marker is not for marking 2D data matrix codes but for the continuous marking of human readable characters and symbols.





# PIN MARKING SPM

We represent Global leader 'Telesis' for fully programmable PINSTAMP Single & Multiple Pin Marking Systems that is based on Telesis' original, patented "Floating Pin" design. A pneumatically driven and returned metal pin permanently indents the marking surface with either dot matrix or continuous line characters - even Logos, graphics or 2-D Codes. Since the marking Pin "floats" on constant return air pressure, surface irregularities up to <sup>1</sup>/<sub>4</sub>" can be easily accommodated. And, no stress concentrations occur. Since the force of the mark is controlled by air pressure, product marking can be "customized" to suit most application. Telesis manufactures over 10 versatile PINSTAMP Models consisting of Fixed and Portable as well as Electrical and Battery-driven versions. They are cost-effective in a wide range of stand alone or on-line manufacturing solutions.



**ID PLATE MARKING SPM** 

FRAME MARKING SPM









Our line of Nd:YAG, Nd: YVO4, CO2, Diode-Pumped and Pulsed Fiber Laser Marking Systems offer the ultimate in high-speed, high quality product identification. Manufacturers of delicate plastic products, ceramics, glass or medical equipments can mark virtually any material with text, Bar Codes, 2-D Codes, Logos and Graphics. Program design for any of our lasers is easy with specially designed Software based on Windows NT and 2000 Platforms and features user-friendly, drop-down menus and popular graphic interfaces.

#### NAME PLATE MARKING



LASER MARKING SPM FOR DAMPER COMPONENT FOR GENSETS



MARKING ON AUTO COMPONENT



### LASER MARKING SPM FOR ENGINE CRANKCASE COVER FOR TWO-WHEELERS



**BILLET MARKING** 



### CAMSHAFT AND CRANKSHAFT MARKING





# VISION SYSTEM

Part Absence & Presence Inspection is never easy before. From Vision Sensors to High Resolution cameras we provide Vision Inspection Solutions for all applications like - Optical Character reading, Dimensional inspection, 1d & 2d bar code & QR code reading, component sorting, Part Presence, Colour Detection, Orientation check, Nut or Thread Missing, date code or Label Checking etc are typical example applications which are already proven in today's manufacturing environments. Our High Resolution series of Vision Inspection camera can do better in challenging environment for Dimensional Inspections, Surface Inspection etc. Customized PC based multi-camera inspection system is also available. Choice is yours get SPM or Assembly station with Vision Inspection integrated or A Standalone Vision Inspection station

### CHARACTER READING SYSTEM



### DIMENSIONAL INSPECTION





### GEAR RATIO CHECKING SPM





**OPTICAL CHARACTER READING SPM** 



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# ROBOTICS

Industrial robots are highly beneficial to automate applications throughout your production line to save time and money. Bradma's robotic integration experience and knowledge is a great benefit to our customers. We want your production line to run as smooth and efficiently as possible and can identify the best robot solution for your specific application requirements.

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Each industrial robot application requires unique end of arm tooling, specific reach and payloads, and flexibility. Industrial robots are automated, programmable and capable of movement on three or more axes. Typical applications of robots include MIG and Spot welding application, material handling, assembly, Deburring application, product inspection, and testing etc all accomplished with high endurance, speed, and precision.







### **CONVEYOR SYSTEM**

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Conveyors are universally used in industrial settings and in packaging and assembling units. It help in transportation of regular and irregularly shaped items from one point to another regardless of their weight. The items can travel in a horizontal, declined or inclined manner, depending on the type of belt conveyor used. They are placed on the surface of the conveyor and transported from one point to the other through continuous, non-stop movement. All types of conveyors like Chain, Belt, Modular belt, Palletized Accumulating/Indexing, Roller conveyors, Slat conveyors, Custom built shuttle conveyors etc can be customised as per your requirement

### LINE AUTOMATION

Modern automated assembly and manufacturing facilities require innovative power, data, positioning and control solutions to minimize costly downtime and maximize production.





### ASSEMBLY LINE AUTOMATION



#### **CLUTCH ACTUATOR ASSY LINE**



**GEAR BOX ASSEMBLY LINE** 







#### GANTRIES

Gantries are most widely used factory crane in the world, They can provide close to 100% coverage of factory floors and work well in conjunction with production lines. Based on the application, a gantry loading from the top through a hatch can be chosen as the optimum configuration. The robot or gantry are usually complemented by decoupling modules placed in close proximity and supplemented with additional application driven stations such as cleaning or marking. Linear gantries are the simplest variant of a gantry robot. The points that can be reached with the gripper are all in one axis. The gantry beam provides the horizontal motion of the main axis, the vertical motion is done by the gantry arm. Gantry units are designed for a work piece weight up to 400 kg ( 880lbs). Industrial robots or different manufacturers and in different configurations are purchased as standardized commodity based on the application and customer specific and equipped with grippers and end of arm tooling for the individual required task.

#### LINEAR GANTRY

Linear gantries are the simplest variant of a gantry robot. The points that can be reached with the gripper are all in one axis. The gantry beam provides the horizontal motion of the main axis, the vertical motion is done by the gantry arm.



#### **CANTILEVER GANTRY**

In some cases it is necessary to make an additional motion interpolating with the gantry vertical axis. On the vertical gantry arm is a rotating axis to which is mounted a cantilever or swivel arm. This cantilever carries the gantry gripper which may have a fourth axis as an option. This configuration is very useful in the case of loading into small machine spaces.



#### **AREA GANTRY**

When there are large areas to be covered, the area gantry is the perfect choice. With this solution the gantry arm can operate over a large user defined area.



#### MANIPULATORS

Industrial manipulator is a machine with a rigid steel manipulator arm that allow complex pneumatic tilts and rotations, even when the product being moved is handled outside it's centre of mass. Bradma has expertise in one and two axis Mechanical pick & Place arrangement, different types of mechanical and pneumatic grippers based on the component requirement.











### SOLUTIONS FOR HIGHER PRODUCTIVITY IN PRODUCTION

- Sensors, machines, workplaces, and IT systems will be connectedalong the value chain.
- These connected systems can interact with one another using standard Internet-based protocols and analyze data to predict failure, configure themselves, and adapt to changes
- Gather and analyze data across machines, enabling faster, more flexible, and more efficient processes to produce higher-quality goods at reduced costs



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### MACHINE DIAGNOSTICS AND PREDICTIVE MAINTENANCE



- Machine diagnostics including online and offline condition analysis, predictive maintenance, pattern recognition, machine optimisation or long- term data archival.
- As a result, seamless and cycle-synchronous data acquisition becomes a prerequisite for effective analysis and correction of processing errors in the machine.





### SOFTWARE ARCHITECTURE FOR THE SMART FACTORY

- Software solutions for connected manufacturing and logistics gather, visualize, analyze, and monitor machine, process, and sensor data.
- They then translate this data into useful information that serves as a source for their rule- and process-based actions
- The transparency this creates allows you to determine precisely where to optimize production & logistics processes along the entire value chain



#### **RFID APPLICATIONS**

#### Industries:

Automotive Component manufacturing Vendors and sub vendors of automotive OEM Pharmaceuticals FMCG Export oriented industries

#### Automotive:

• Vehicle tracking, Store Material Tracking, Inventory Management. Access Controls etc

#### Components:

• Employees Management, Store Material Tracking, Inventory Management, Access Control etc.











### INDUSTRIAL SOFTWARE ARE USED ON VARIOUS APPLICATIONS

- Product / Process traceability application software
- Tool / component management software
- Data storage and retrieval software
- Process monitoring software
- ERP / SAP interfacing software
- SCADA Systems
- Interface Software

# BRADMA PROGRESSIVE CONTROL'S SOLUTIONS

Bradma Industrial Automation- Carried out integration & controls Solutions in Assembly Lines Using RFIDs, Wireless Sensing, Remote I/O Interfacing & Safety Devices Prevailing in Industries

#### Capabilities

- Industrial Machinery Safety Type-4 system designing credentials
- Industrial Component tracking & Identification using RFIDs & Microchips with ample memory & computational resources

#### Features

- Adding value in Better manufacturing Experience to the Customer by means of superior Tracking & Handling of systems
- Time- The amount of time saved in Monitoring
- Money- The financial aspect is the best advantage as technology replaces Human dependency
- IOT & RFID systems alleviate potential business opportunity in Industry 4.0
- Stepping up to the rostrum of Digital factory or Smart factory







# BRADMA INDIGENISATION OF CONTROLS

Bradma Industrial Automation has built its own fully integrated controls infrastructure along with industrial software

#### Capabilities

- In-house Electrical System Design in E-Plan
- Integration of E-Plan with SAP for final Electrical BOM
- In-house Robot, PLC & HMI Programming
- Software development & implementation

#### Features

- Processes like Control Panels Design, Wiring & PLC Programming is carried In-house
- All Electrical Drawings released & Controlled in E-plan for every project







#### BRADMA SMART CONTROLS

- Bradma Industrial Automation has developed, for the first time, smart control systems to independently operate and monitor a complete system of industrial process through any Smart Device on web server, Customer can Easily Diagnose, Monitor & Record the complete System
- Report Generation of System Parameters on Web Server.
- Capability of Digitizing any factory -Monitoring, controlling & Recording can be done
- Entering into new Era of Industries with complete system monitoring possible through long distances





### SOFTWARES

Bradma offers software applications that assures a smooth and fully automatic production flow round out our product portfolio. Bradma's applications are versatile, adaptable and easy to use. Our user interfaces for engraving and marking, which feature operations that are userfriendly, flexible and traceable, complete our portfolio of system and machine solutions.

#### Features

- User Friendly & Simple input •
- Precise & Repeatable output
- Multilevel Password Protection for user Access
- Optional Vision system for Readability & grade • verification
- Remote Access optioncustomer & application specific software solutions
- Data Analysis •

#### **MES Connectivity**

- Data Marking
- Traceability

#### **SQL Connectivity**

- Production Fetching •
- Data Marking
- Traceability
- **Production Planning**

#### **ERP Connectivity**

- **Production Planning**
- **Production Fetching**
- Data Marking •
- Traceability •
- Auto Marking-Frame Bradma Station 1 Date : 03-May-2016 Day: Tuesday Time: 03:43:31 PM Shift : B User: sysmanager Model Variant SPLENDER PLUS (DRUM AND SPOKE WHEEL Marking Data MBLHA10EEGGE00001 Information Controller Port : COM4 Printer Port : COM3 Printer Type : PRINTRNOX Barcode Copies: 1 Pattern Name : PATTERN1 Last Marking Status By Done Ready Abort 05/03/2016 3:43:22 PM Exit - Esc Send - F2 1

Automating The Future		Laser Marking Software Designed & Developed By :- FORBES & COMPANY LTD.			
Operator :- C	Operator	Shift :-	Operator	Date / Time :-	Operator
Plate Type Select Marking Plate Select M/C Name Line No Select Total Count Running Cor 0 RESET	• •				PLC Healthy PLC Auto Cycle Start Marking Start Making Done Reset Machine Erro





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