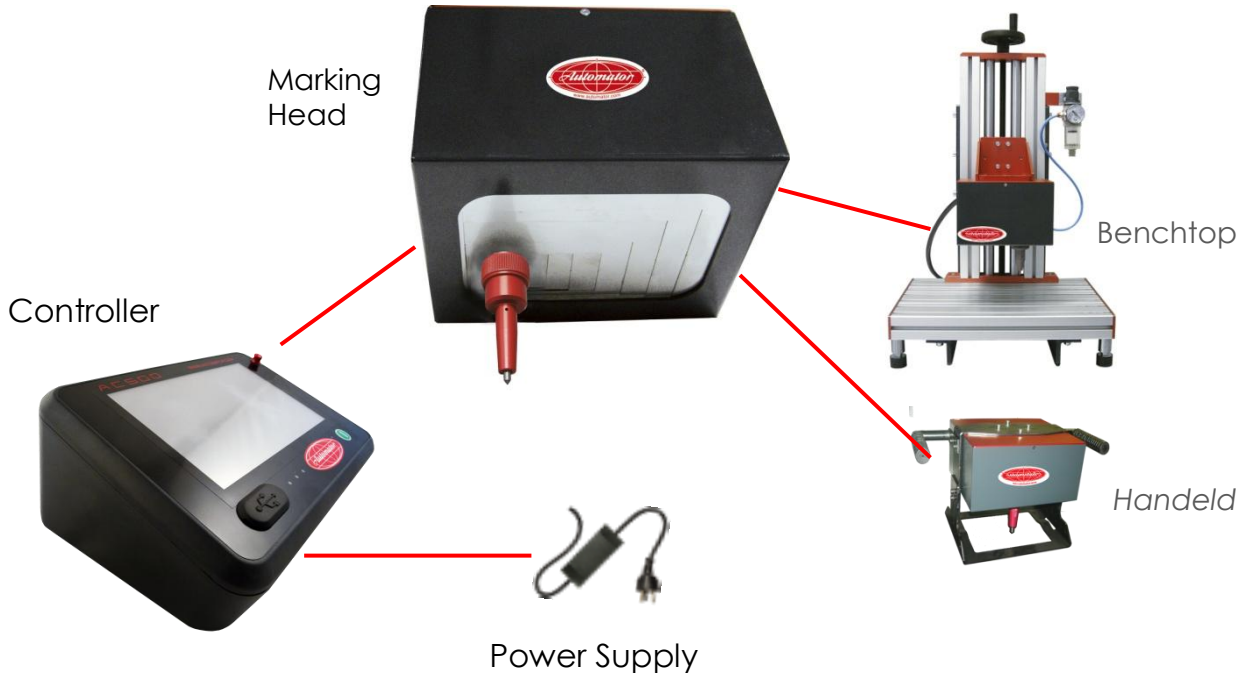
ADP5090 - Dot Peen Marking System

marking area50x90mm



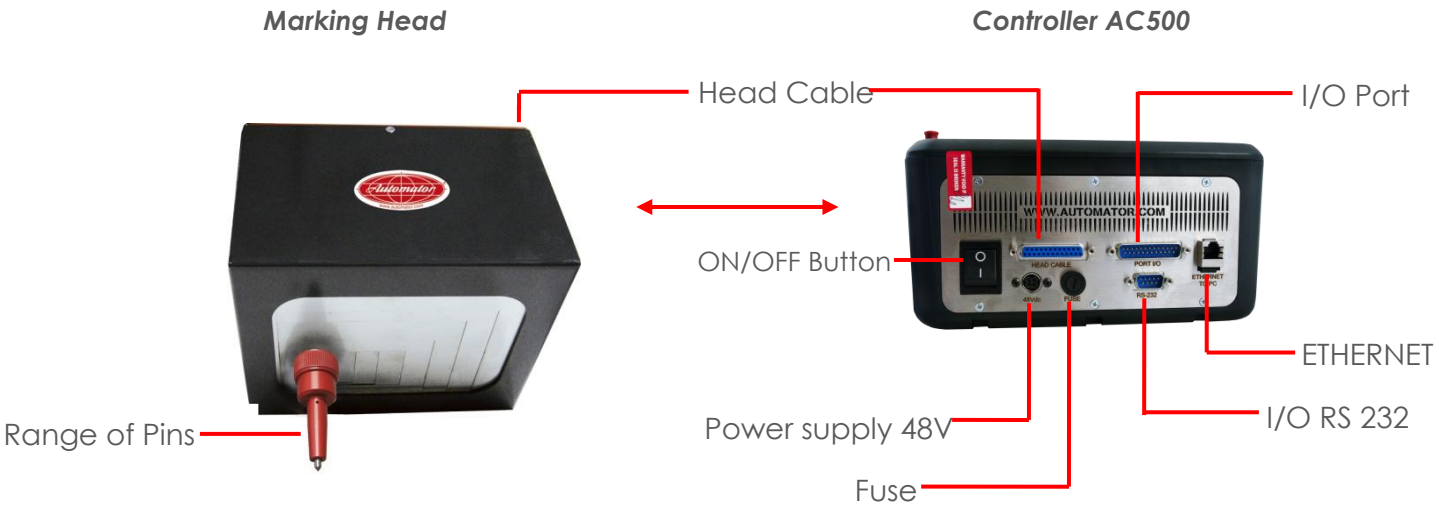
System Overview

ADP 5090 system marks permanently different materials, such as metals, aluminum, iron, cast, plastic… and many others, with a pin with drive air and spring return. The characteristics of the message to be marked are all different and easily set by software, such as height and width of the character, marking position in the window, the font, the parameters of work and communications. Two axes, X and Y each powered by a stepper motor, determine the movement of the pin and the precision of the point in the marking window of the specific model.

The system consists of:

- Marking Head with cartridge, cable and pin
- Controller
- Filter
- Power supply

System Scheme



System Marking Modes

Controlled dot – The provided software allows the marking of font characters, (5x7, 11x16 etc..) where for each point the head activates the solenoid that moves the pin. Thanks to a specific parameter operating character, you can specify the density of points to be marked, typically expressed in dots / cm. The mode of the controlled point (dot) is recommended for marking of high quality and definition.

Vibrating dot – The solenoid valve which controls the pin is in working "open" condition throughout all the operative process of the object to be marked. Also, thanks to the combined action of compressed air and spring return in the cartridge, the pin comes in small vibration and composes the message. The vibration mode is recommended for marking and consequently very fast in very short time

Marking Head

The ADP 5090 head has a marking area of 50x90mm, using a pin that moves on X and Y axes with high precision. The shutter plates at the base of the cartridge protect the internal moving parts from dirt and waste. On the cover there are 4 holes for mounting the head in any orientation.

Marking Head - Technical data

Overall Dimensions: LxWxH (mm):	180x150x120
Weight (kg):	4,9
Marking Area (mm):	50x90
Power supply (V):	48
Air Supply (Bar):	4,0 - 8,3
Operating temperature (C°):	0 - +49
Store temperature (C°):	-10 - +59
Humidity (%):	30 - 80 non condensing
Cartridges:	Vibrate 3 – Vibrate 4 - Dot 3 - Dot 3XL - Dot 6 – Dot 6 XL - DOT12
Pins	Vibrate 3mm carbide - Vibrate 4mm carbide - Dot 3mm carbide - Dot 3mm XL carbide - Dot 6mm carbide - Dot 6mm XL carbide – Dot 12mm carbide
Connectivity:	Power, ethernet port, USB Port, RS 232/485, I/O Port

Marking Head - Head - Controller cable

Superflexible cable for continuous moving applications, connecting marking head – controller in 2mt length. Available in different lengths.

Marking Head - Marking speed

The speed rate is related to various factors such as character height, depth, density, the desired quality of marking. The system can mark up to 10 characters per second.

Marking Head - Pin life

Pin life depends mostly on different factors, such as the material to mark and the marking depth you want to reach. Generally, on 47 Rockwell hardness and with mm 0,127 marking depth, the carbide pin makes about il 9.000.000 points before needing sharpened. If carbide pins are used, marking times will increase by about 30%.

Marking Head - Marking noise

When the marking system is set a 50% of its maximum level, its noise level has been measures at 74,6 dB (using the "time weighted average PPROACH (average sound exposure over an 8 hour period). Noise-level Tests have been carried out under controlled conditions, imitating as closely as possible industrial normal operations. Conditions such as the kind of surface to be marked, its shape and material, the rigidity of the working table and the ambient noise can alter the actual noise level.

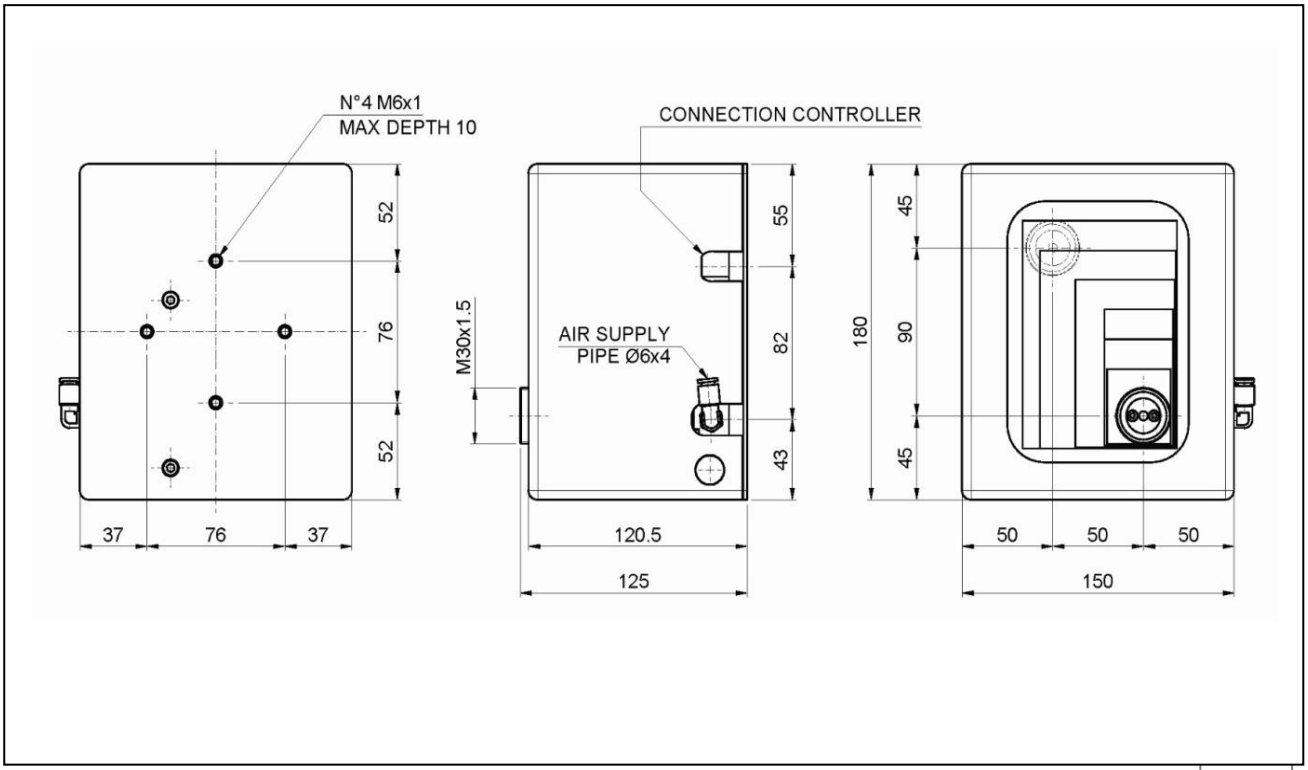
Marking Head - Marking vibrations

Vibrations tests are referred to hand-arm (VM) and were performer under controlled conditions as closely as possible to standard industrial operations. Vibrations tests results: Steel marking surface Pin 3mm MB 0,4m/s T(eav) >24H T(elv) >24H Pin da 6mm MB 0,8m/s T(eav) >24H T(elv) >24H Aluminum marking surface Pin da 3mm MB 0,6m/s T(eav) >24H T(elv) >24H Pin 6mm MB 1,2m/s T(eav) >24H T(elv) >24H Conditions, such as the support, the rigidity of the work piece, the material and the setting of the machine can alter the actual vibration level.

Marking Head - Available Pins and Cartridges

Vibrating dot	3 mm 4 mm
Controlled dot	3 mm 3 mm XL 3 mm, stroke +20 mm 6 mm 6 mm XL 12 mm
Vibrating dot cartridges	3 mm with spring and oring 4 mm with spring and oring
Controlled dot Cartridge	3 mm 3 mm stroke +20 mm 6 mm 12 mm

Marking Head - Technical Drawings



Controller AC500

The Controller AC500 has a graphic 7" color touch screen . The internal flash memory, 32 Mb can be extended through the simple use of a USB key and can store thousands of programs (in relation to the size of each job). With the choice of flash memory (instead of Ram), is guaranteed the preservation of the programs even if the battery runs out. The controller is connected to the marking head by a cable of about 2 meter in length. The system power supply is external to 220V to avoid overheat problems

Controller AC500 - Technical Data

Overall Dimensions LxWxH (mm):	230x165x110
Weight (kg):	2,3
Material:	Special Resin
Power Supply (V):	48Vdc
External Power Supply:	External 220V 90-230V 50- 60Hz monophase
Humidity (%):	10-79 No condensing
Working Temperature (C°):	0-45 No condensing
Connectivity:	RS232, RS485, Ethernet, Usb, I/O

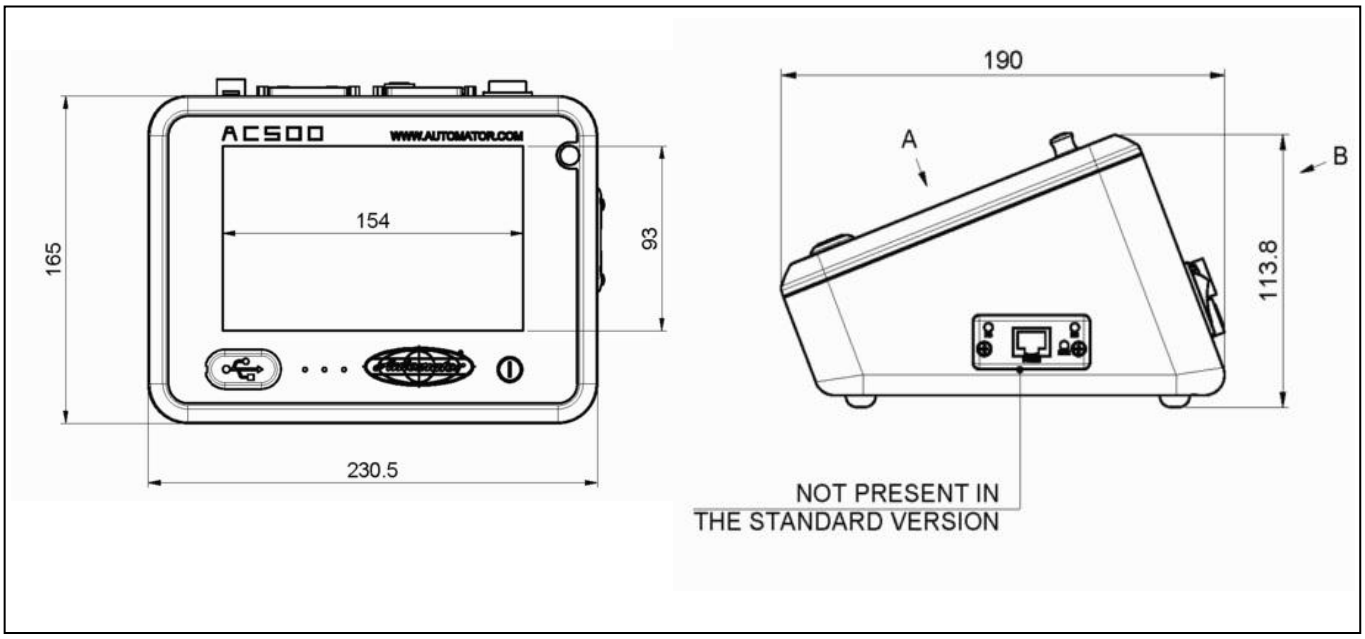
Controller AC500 - External power supply

External Power Supply CE, UL, CSA to connect the controller to the facility power. The power supply must be stabilized and the working environment should not have major electromagnetic fields. Meet EISA 2007 (Energy and Independence and Security Act)

Controller AC500 - Filter/Regulator

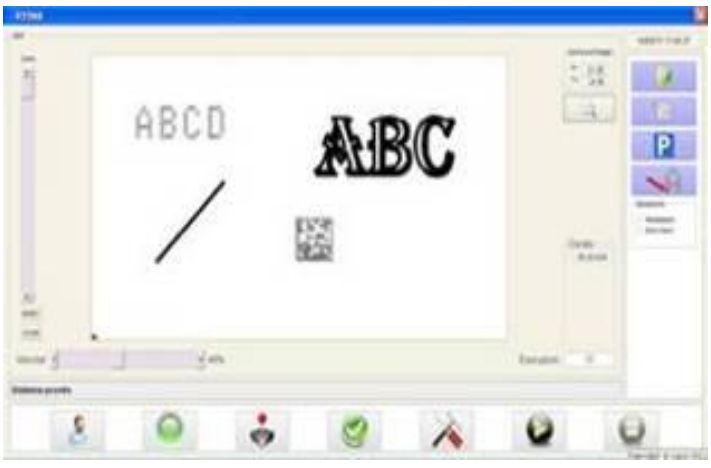
Pressure regulator with filter and water separator. External power must bring clean, dry air.

Controller AC500 - Technical Drawings



Software

With an intuitive and flexible interface, the Automator software collects all the features of more than 20 years of experience in the field of dot peen marking technology. The touch screen graphic display allows to browse and easily create messages to be marked, viewing the time of the transaction. The preview mode allows to display exactly what will be marked and any variation of the message will be immediately displayed.



The software allows the creation of texts with dates in various formats: fixed or variable texts, codes, serial numbers, logos and Datamatrix. It's also possible to create job programs by a PC, and transfer them to the Controller AC500 by a USB pendrive or by the USB cable connection.

Communication Protocols

Standard Communication Protocols - Serial protocols:

- Programmable
- Extended - available on RS232/485
  - available on Ethernet TCP/IP port

Optional Communication Protocols - Industrial Protocols Field Bus:

- EIP (Ethernet IP)
- Profibus
- Profinet

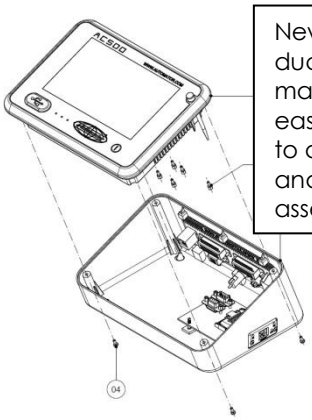
(Technical details about the interface with the controller included with the optional Object Dictionary manual)

Custom Additional Protocols:

- CCLinks
- Blootooth

System Configurations

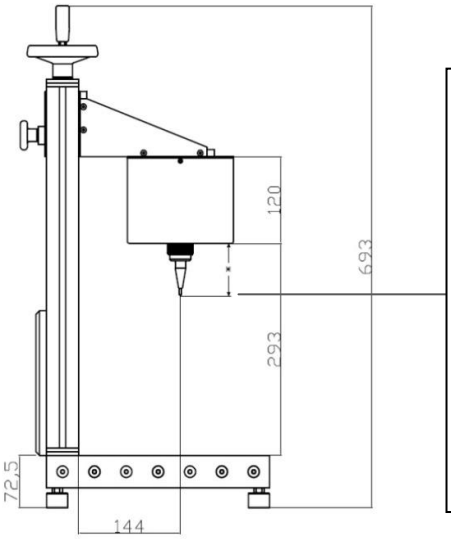
In addition to the production lines configuration, ADP5090 can be set in two other different modes: as benchtop or portable.



New ductworks make AC500 easy to dismantle and assemble

Benchtop Configuration

Base in aluminum and column with wheel for manual adjustment of the head, in relation to the surface to be marked. Bracket on one side to hold the regulator



The lenght of the pin afflicts the maxmum height of the item
to mark:

VIBRO
3 mm: 330mm
4 mm:330 mm

CONTROLLED
3 mm: 302mm
6 mm: 305mm
12 mm:291mm

Portable Configuration

Portable structure for ADP5090 head with two side handles and a support bracket, adjustable in relation to fixed the cartridge / pin. The cable head-controller is 4mt long.