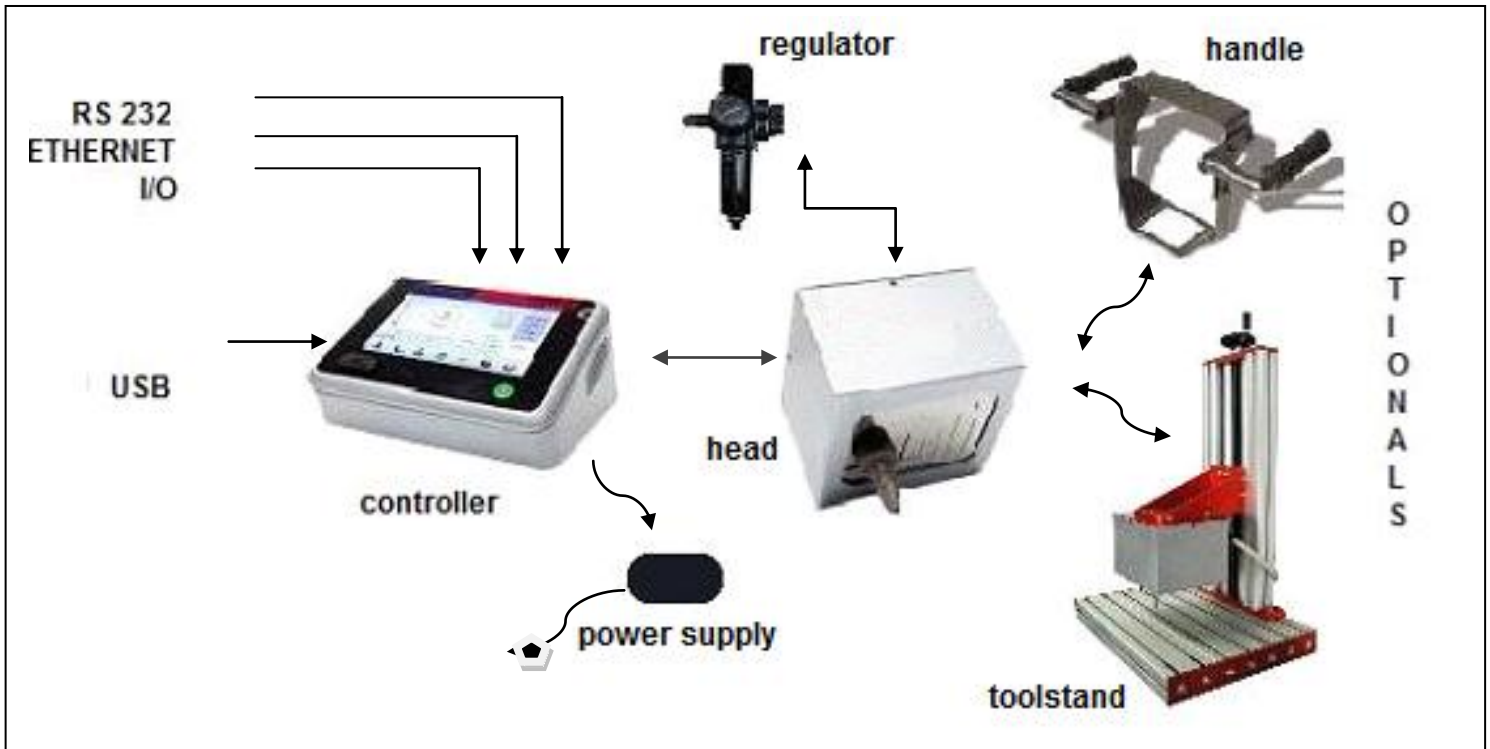


Technical sheet

ADP 120160 – AC 500



CONCEPT

AD120160 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 strips at the base of the cartridge protect the internal moving parts from dirt and waste. On the cover there are 4 fixturing holes for mounting the head in any orientation.

SYSTEM CONFIGURATION

- The system consists of:
- Marking Head with cartridge and pin**
- Controller with cable**
- Filter**
- Power supply**

MARKING HEAD

The ADP 1201600 head has a marking area of 120x160mm, using a pin that moves on X and Y axes with high precision..

TWO MARKING TECHNOLOGIES

**Technology 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.

**Technology Vibrating** – 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.

**Technical sheet**

**Standard pins**

**Dot controlled pin :**  
 3mm - length 68mm  
 6mm - length 65mm

**Vibration pin**  
 3mm - length 60mm  
 6mm - length 68mm

**CONTROLLER**



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.

Standard ports and connections:

USB port	To load programs
	To load logos,BPM and DXF
	To load TTF
	To upgrade the software
	To upgrade the language
	To connect keyboard/mouse
	To back up
Ethernet port	To connect to PC or other device
RS 232/485 port	INPUT – Start Print
	INPUT – Abort
	INPUT – SEL 0 (select a job job)
	INPUT – SEL 1 (select a job job)
	INPUT – SEL 2 (select a job job)
	INPUT – SEL 3 (select a job job)
	OUTPUT – Done
	OUTPUT – Ready
	6 INPUT – free (configurable) 4 OUTPUT – free (configurable)

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

**SOFTWARE**

Main features of the software

- Icons for easy access
- Up to 40 available languages
- Linear and arc text
- Line, arc, circle
- File DXF

- File BMP
- Font TTF® (windows property)
- DataMatrix, 2D code, QR code
- Pause
- GoTo
- Comment (supplementary info for the operator)
- Marking mode: speed-normal-high quality
- Graphic visualisation
- Drag
- Personalization of shift, month, year codes
- Simulation of each character marking
- Simulation of the marking of all job
- Query
- PExternal protocol communications
- Programmable maintenance
- Statistic (standby and marking)
- Alarm signal history
- Apple pie chart to check the available memory
- Eventual head stock
- Back up of the axes, of the jobs/programs, of the head stock and of the controller configuration
- Flag comands, as follows:

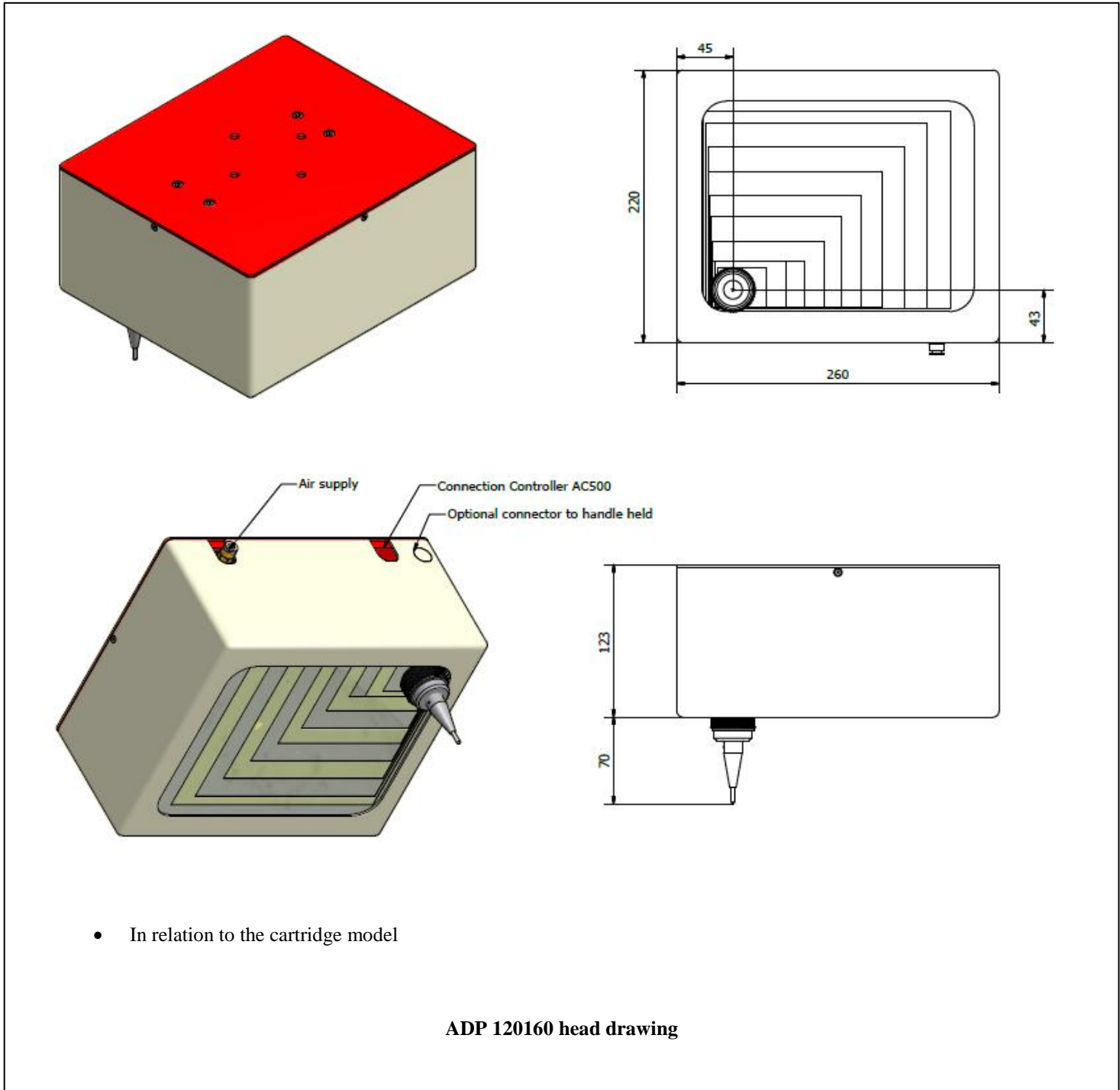
FLAG	WHAT YOU MARK
%A	Weekday (Mon,Tue,...)
%B	Month (Jan, Feb, ...)
%C	Date in the format MM/GG/AA
%D	Day of the month (01-31)
%E	Year code
%F	Single Character Check Digit per PS-OCR
%G	Double Character Check Digit per PS-OCR
%H	Hour (00 - 23)
%I	Hour (00 - 12)
%J	Year Julian day (001 - 366)
%K	Month code (1 - 9, O, N, D)
%L	Last digit of the year (0 - 9)
%M	Month (01 - 12)
%N	Minutes (00 - 59)
%#O	Serial number
%#o	Serial number
%P	AM or PM
%#Q	Insert text in the query table (# number of the query)
%#q	Insert title in the query table (# number of the query)
%R	Week number (01-53) [week 01 starts the 1st of January]
%r	Week number (01-53) [week 01 contains the first Thursday of the year]
%#S	Job serial number
%#s	Job serial number
%T	Hour (HH:MM)
%U	Month code
%#V	Variable text
%#v	Variable text
%X	Date (MM/DD/YY)
%Y	Year (00 - 99)
%Z	Shift code
%%	To enter the '%' character in the string
%#=	Enter in the current string the text of the specified fiels (#)

**Technical sheet**

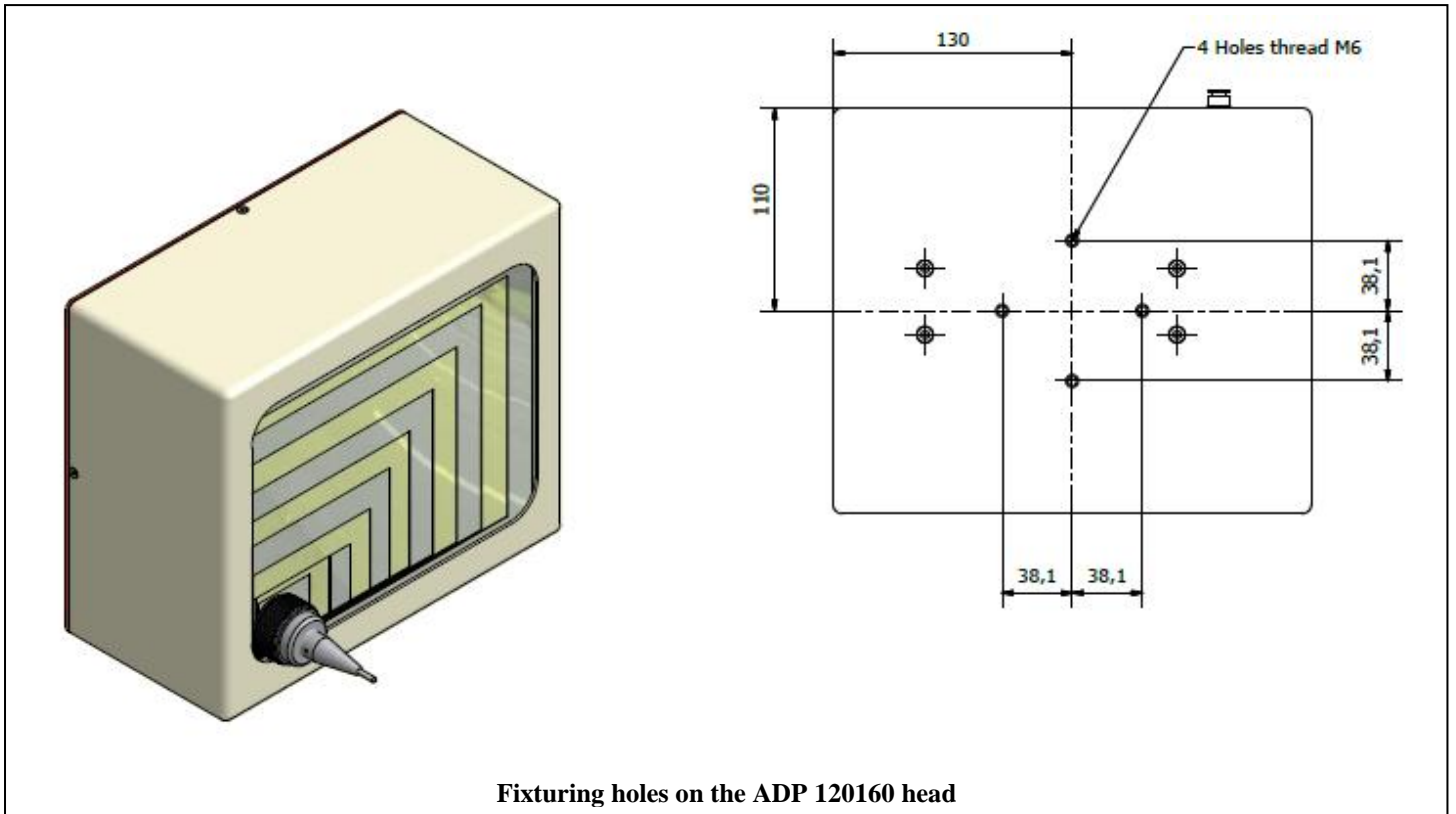
W	Day of the week (1 = Sunday ... 7 = Saturday)
%w	Day of the week (1 = Monday... 7 = Saturday)
%X	Date (MM/DD/YY)
%Y	Year (00 - 99)
%Z	Shift code

%%	Enter the character '%' in the string
%#=#	Enter in the current string the text of the specific field (#)
%#@	Enter in the current string the ASCII specified character (#)

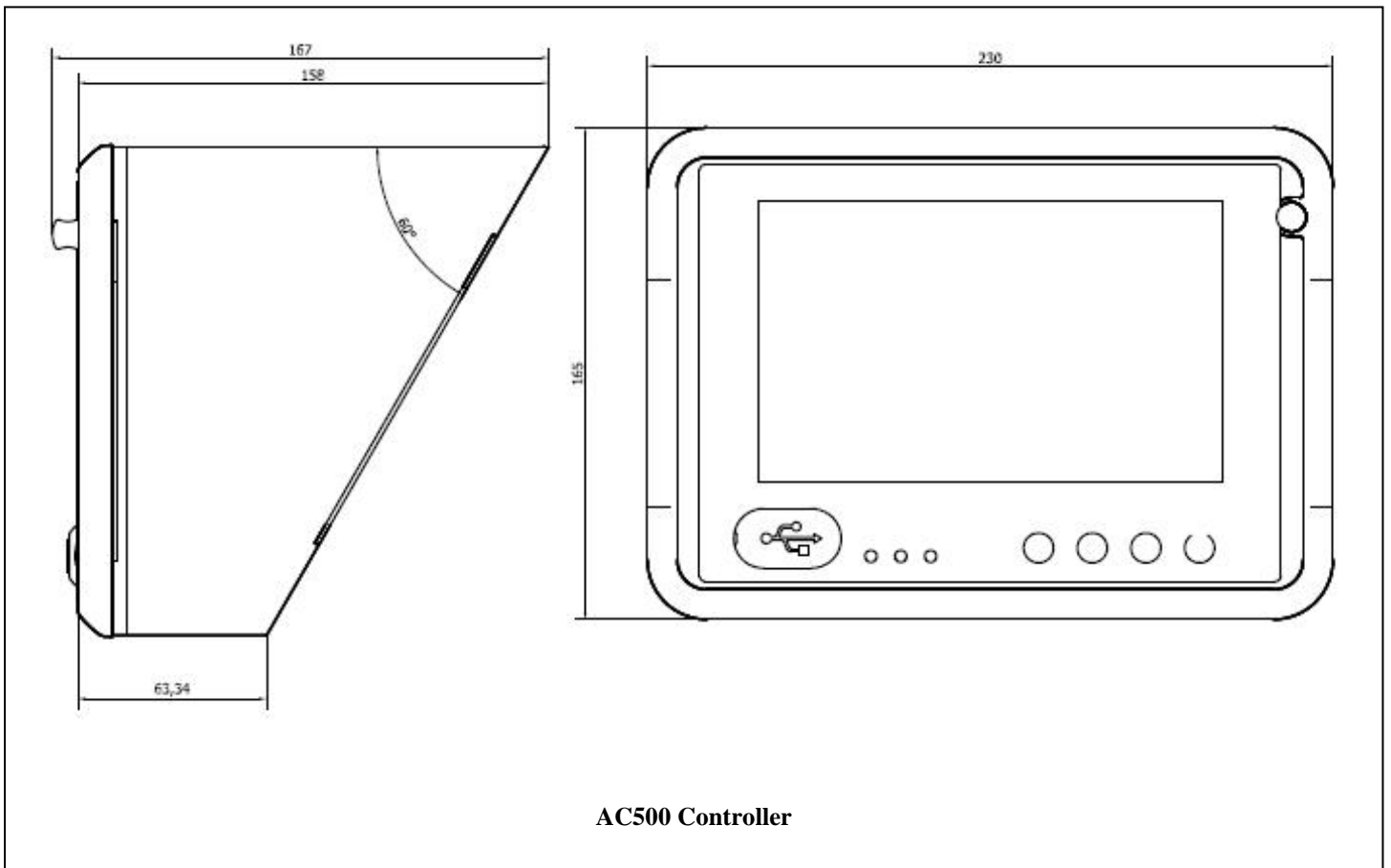
**DRAWINGS AND TECHNICAL FEATURES OF THE SYSTEM**



Technical sheet

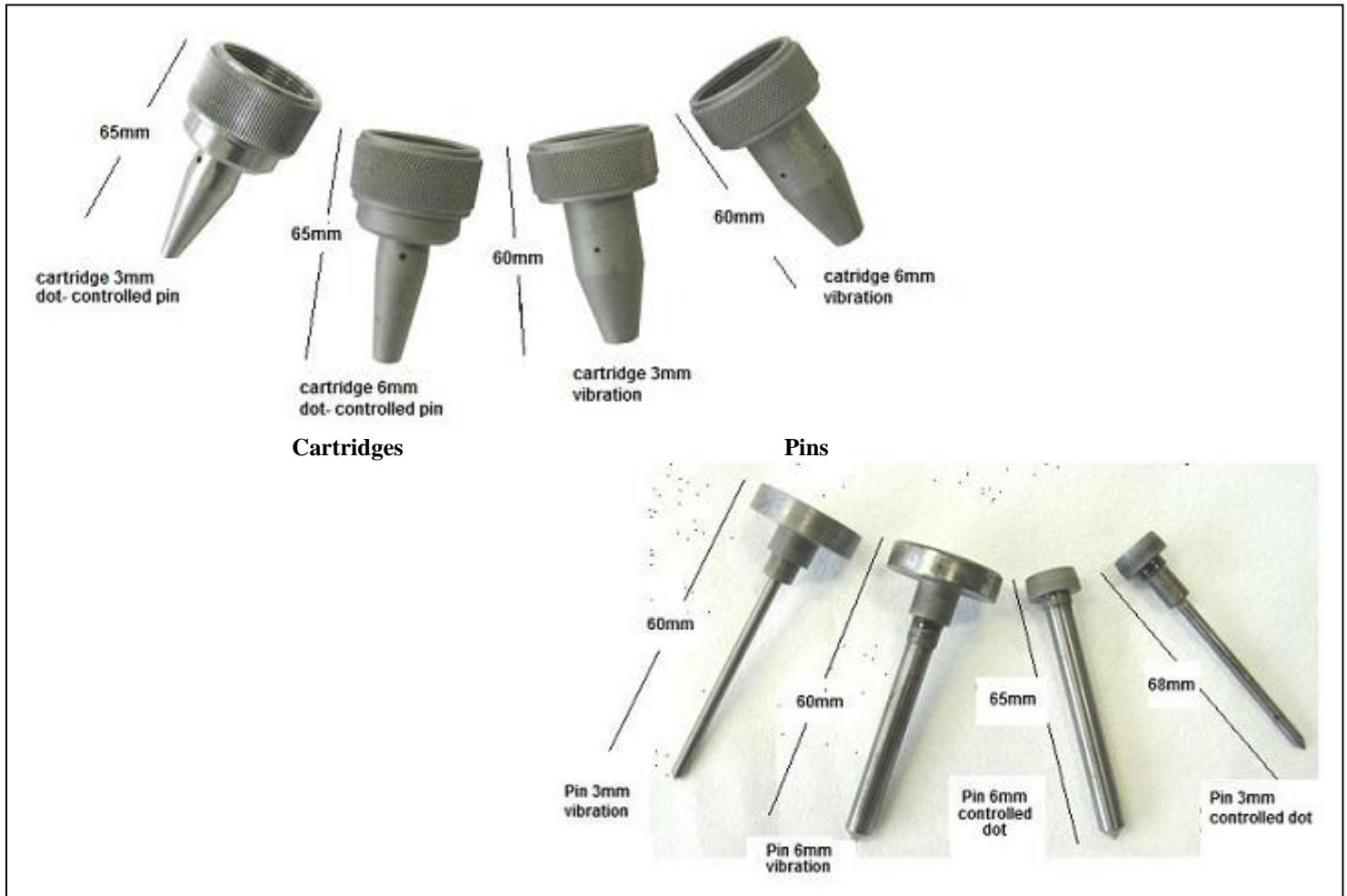


Fixturing holes on the ADP 120160 head



AC500 Controller

Technical sheet



**Head ADP5090**

Dimensios LxDxH	220x260x123 mm
Weight	7,5 Kg
Material	Metal sheet
Supply	Electro-pneumatic
Electric supply	48V
Air supply	4, - 8,3 bars clean and dry
Humidity	10-80% non-condensing
Operating temperature	0-50°C non-condensing
Marking area	50x90
Cartridges	Vibrate 3 Vibrate 6 Dot 3 Dot 6
Pins	Vibrate 3mm carbide Vibrate 6mm carbide Dot 3mm carbide Dot 6mm carbide

The system can mark up to 10 characters per second-

**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 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 speeds :**

The speed rate is related to various factors such as character height, depth, density, the desired quality of marking.

**Technical sheet**

**Vibrations**

Vibrations tests are referred to hand-arm (VM) and were performed under controlled conditions as closely as possible to standard industrial operations.

Vibrations tests results:

Steel marking surface

Pin da 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 da 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.

**AC500 Controller**

Dimensions LxDxH	230x165x110 mm
Weight	2,3 Kg
Material	Material sheet
Supply	Electric
Power supply	48V
Humidity	10-80 % non condensing
Working temperature	0-45°C non condensing
Configuration	Table Top Pannel

Display	Graphic, colour 7" Touch screen
Cable head-controller	1 mt
Power supply	External 220V 90-230V 50-60Hz monophase
Communications	RS232, RS485, Ethernet, Usb
Environment	Standard industrial, no electro.magnetic fields

**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)

**Cable head-controller**

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

**Filter/Regulator**

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

**DRAWINGS AND TECHNICAL FEATURES OF THE SYSTEM**

**Toolpost**



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

**Handle**



Portable structure for ADP120160 head with two side handles and a support bracket, adjustable in relation to fixed the cartridge / pin. The cable head-controller is 4mt long.

Permanent magnet to grant stability during marking.

Technical sheet

