DIGITALARCMETER 2.0

QUICK START

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INTRODUCTION:

The Digitalarchimeter is an advanced system of measurement. It allows to measure in a very accurate way the radius/diameter of curvature of a plate or of a profiled element.
Thanks to the integrated gyroscope is able to rotate the display automatically.
In addition, the accelerometer detects when is gripped, reawakening the instrument when it is in standby.
The WIFI version (optional) allows the transmission of the measured data directly into the CNC Touch Command EVO.

The device is delivered calibrated and tested. It can be used immediately.

MAIN PARTS:

1) **BUTTON 1**: On/Off.

2) **BUTTON 2**: Menu scrolling.
   Provides access to the various sections contained in the menu.

3) **BUTTON 3**: Hold/OK.
   Retains the data acquired from the instrument. It must be pressed again to allow a new measurement.
   Edit the settings in the different sections of the menu.

4) **TRASDUCER**: Sensor for measurements.

5) **ARCH**: The edge to be put on the part to be measured.

6) **SCREEN**: User interface.

MENU:

To scroll through the menu press the button **Menu scrolling (BUTTON 2)**. To change the option in the menu press the button **Hold/OK (BUTTON 3)**.
The symbol of the selected mode blinks on the screen.
The menu's itemes are sequential. Once an operation is done, it automatically returned to the main screen.

1) **MEASUREMENT:**
   Allow to make measurements.
   This is the main mode. Once septate the eventual instrument preferences, it will probably be the only one that you will be using.
   For more information page 4 Measure the plates.
2) **CALIBRATION:**
   Allow to calibrate the tool. For more information page 5 Calibration.
3) **BACK LIGHT:**
   Changes from mode "low brightness" to "high brightness" .
   It is recommended to use only the instrument in "low brightness ". This reduce significantly the use of the power supply, allowing a longer battery life.
4) **MAGNITUDE MEASURED:**
   It lets you choose the desired magnitude from the following options:
   - **h:** Height
   - **r:** Radius
   - **d:** Diameter
5) **ARM:**
   Configure the arm in which are calculated the measurements.
   The possibility are: 100, 150 (default), 300, 600.
6) **UNIT OF MEASURE:**
   Set the unit of measurement that displays the measurements.
   (centimeters or inches)
7) **SLEEP MODE:**
   Enable/disable sleep mode. The symbol **(Zzz)** indicates that the tool is in sleep mode. For more information page 5 Auto power off.

MEASURE THE PLATES:

Place the instrument on the plate/element. Make sure both metal edge of the arm are in contact with the workpiece.

Once this is done, the measure of the desired magnitude is displayed on the screen. Pressing the button **Hold/OK (BUTTON 3)** the data will be stored.

When the data is stored it is not possible to make a new measurement. To make a new measurement just push again on button **Hold/OK (BUTTON 3).**

MEASURING PRECISION:

The actual precision of the digitalarcmeter depends on the accuracy of the sensor, the correct positioning of the instrument and the regularity of the sheet surface.

The relative accuracy decreases with the increasing of the measured radius. Therefore, fixed a certain relative precision, there is an upper limit to the radius properly measurable.

The mechanics of the sensor and the amplitude of the measuring arm instead impose a lower limit on the measure.

The following table shows the maximum and minimum limits of measure for the different measuring arms, referred to a measurement error on the maximum radius equal to 5%.

ARM	RANGE MINIMUM MEASURE IN MM	RANGE MAXIMUM MEASURE IN MM
100	65	850
150	120	1250
300	490	2500
600	2000	5000

POSITION SENSORS:

_Gyroscopic sensor:

The tool orientation sensor. By turning the instrument, the display's numbers will be automatically rotated. This ensures the easiest way of reading data in any position of use.

_Accelerometer:

It allows to the device to see if was gripped after a period of inactivity. It is used in the Auto power off. For more information page 5 Auto Power off.

POWER SUPPLY:

_Battery:

Use a battery of 1.5V AA. The WIFI version (optional) uses a rechargeable battery 1.2V. It ensures the additional energy required for data transmission with the WIFI antenna. The battery charger is included in the box of the WIFI version.

_Battery change:

Unscrew the screws of the battery compartment. Remove the panel. Replace the battery according to the direction of the positive pole **(+)**. Replace the cover. Tighten the screws.

_Auto power off:

After five minutes of inactivity, the device turns off automatically. After approximately one minute after shutdown, the tool is turned on if detects it is gripped or if the potentiometer is moved. It only works if the sleep mode **(Zzz)** is active. After ninety minutes of inactivity the power off will be hardware. To turn it on again you will need to press the button **On/Off (BUTTON 1)**.

CALIBRATION:

The calibration is **NOT** required. It is done for each device in the MG's laboratories with precision instrumentation right for this purpose.

MG denies any responsibility caused to a calibration unrealized in its laboratories. That could involve in a improper instrument operation.

_Zero setting:

In the menu **MAGNITUDE MEASURED** select **h**. Doing this the length of the potentiometer will be displaied.

Place the arm of the tool on a perfectly flat surface. Enter in the **CALIBRATION** menu**.** Push the button **Hold/OK (BUTTON 3).**

Lift the instrument. Supporting again the instrument on a flat surface the value of h appears must be 0.00. This last procedure may be useful to periodically check the proper functioning of the device.

_Scaling factor setting:

Operation performed in MG laboratories.

Additional information in this regard are provided at the express request of the customer. The verification of this calibration is not necessary.

WIFI MODULE: (Optional)

The addition of WIFI module allows to send the measurements acquired from Digitalarcmeter directly to the Touch Command EVO, avoiding to put manually the data.

_ Additional parts of the WIFI version:

1) USB WIFI receiving pen of the Touch Command EVO.
2) Antenna WIFI transmitting of the Digitalarcmeter.
3) Battery charger.

_ Data transmission:

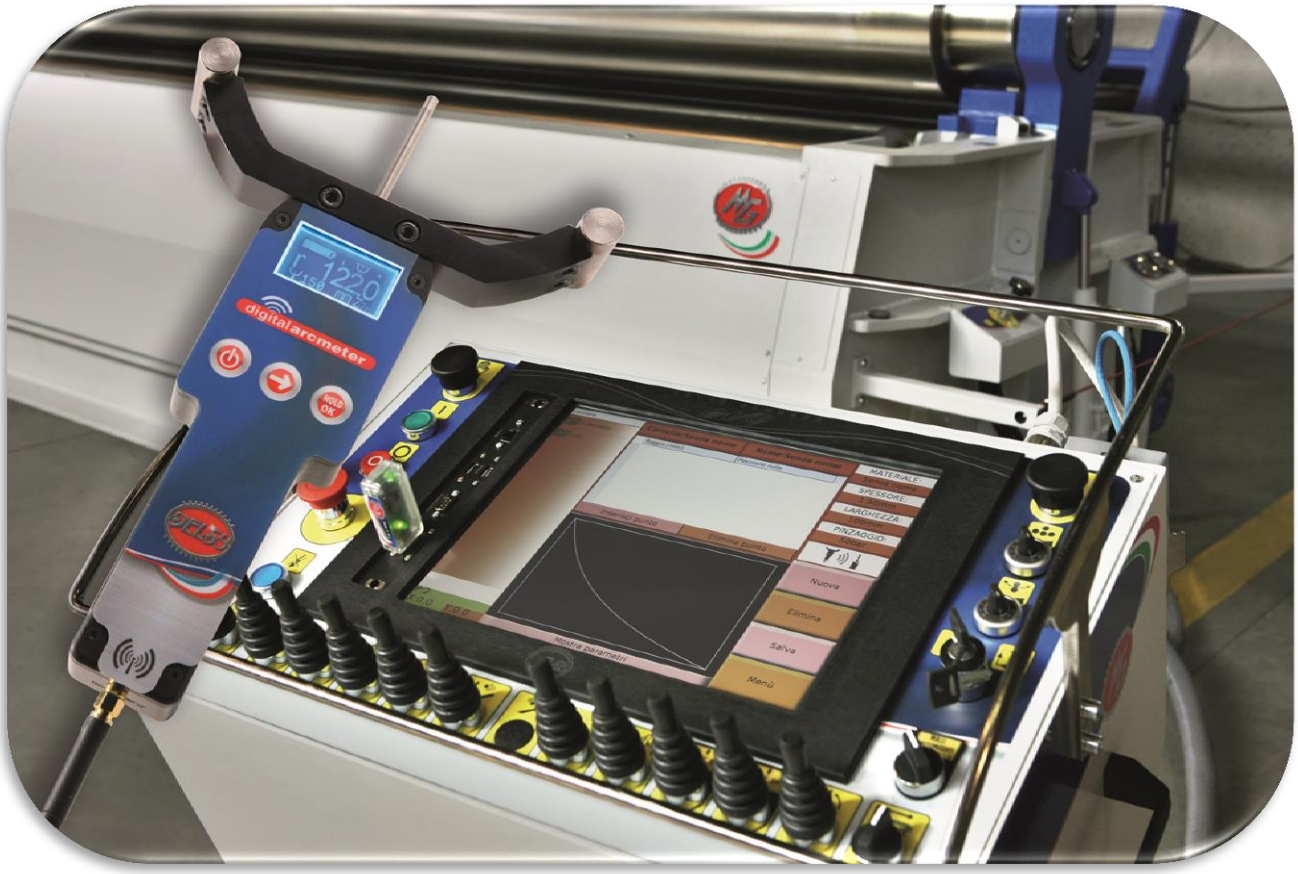
1) Enter the receiving USB WIFI in Touch Command EVO.
2) Register as "Expert" user on Touch Command EVO (Pasword 0000).
3) Enter in the screen “plates” on Touch Command EVO.
4) Turn on the Digitalarcmeter.
5) Wait until the system recognizes the device and starts to communicate with it. When the Touch Command EVO recognizes the connection, the antenna WIFI symbol in the page shapes will begin to blink. If the communication is active on the tool’s display will blink the symbol of WIFI antenna will blink.

6) When the connection is active, simply press **Hold/OK (BUTTON 3)** to transmitted the data to the CNC.

_USB WIFI pen LEDs:

The LEDs of the USB WIFI module allow to check the status of the WIFI connection:

LED	COLORE	DESCRIZONE
ON	Green	Power ON
TX	Yellow	Data transmission
RX	Yellow	Receive data
AS.	Green	**ASSOCIATE** When the LED is blinking the module is ready to receive
PWR	Blue	**POWER** The brightness is proportional to the signal power



Every time you press the button **Hold/OK (BUTTON 3)** is sent a new value. If you want to remove one, just push **Delete point** on the control.

The power consumption of Digitalarcmeter WIFI is higher than the basic version. This is compensated by providing NiMH rechargeable batteries with the relative charger.

REFERENCES:

Reference directive: 2004/22/CE

The product label of our product is fixed on the back side. The serial number is located on it. Transcribe this data in your user manual and always referred this information when you contact our representation or the MG.

Serial number: …… **Buying date: ……**

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