



MX-4 Evolution LCD Control Unit

We thank you for purchasing this BADECO product and are confident that you will be satisfied with your choice.
This product has been designed to meet all of your professional requirements, whether simple or complex.

Warning before use

To avoid any damage or danger to the user, it is absolutely essential to use **ONLY** original or approved BADECO accessories (incompatibilities with third-party accessories!).

Specifications :

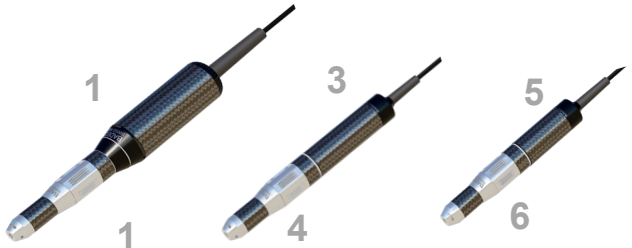

- 1) Compact and simple design.
- 2) Intuitive and easy-to-use control unit.
- 3) DC power supply (Primary AC-230V/115V) - Output power 24V / 4A.
- 4) Automatic protection system against electrical surge.
- 5) Automatic energy-saving function (Class VI).
- 6) Independent speed adjustment per motor in manual or pedal mode, with memory system.
- 7) Dual pedal control (on/off contact mode and variable speed mode) – directly connected to the potentiometer.
- 8) Left/Right rotation with safety neutral position.
- 9) Quadruple output for 4 motors with selection buttons on the front of the control unit.
- 10) High-quality LCD screen with motor identification system and relative speed indicator (displayed as a percentage).
- 11) Memory of settings for each motor (speed and pedal or manual mode) - memory of the last setting.

Description :



- 1) Pedal switch for contact or variable mode
- 2) Switch for motor rotation direction: left (L) / neutral / right (R)
- 3) Rotary knob for manual speed adjustment
- 4) Button to switch from manual (green LED) to pedal (blue LED)
- 5) Power On/Off
- 6) Push selector buttons for motor selection

- 7) LCD display showing relative speed (in %)
- 8) DC power supply (Primary AC – 230V / 115V)
- 9) Screw mount for MX and MX-SF2 screw-on feet (on top)
- 10) Pedal connector (PC800 or PC200)
- 11) Connectors for motor connections 1, 2, 3 and 4

	
<ol style="list-style-type: none"> 1) Strong RS2000 Motor 2) HP465 Rotary Handpiece 3) Nano Light RS3000SP Motor 4) HP460 Rotary Handpiece 5) Nano Light RS3000V Motor 6) HP460 Rotary Handpiece 	<ol style="list-style-type: none"> 7) MX screw-in Foot Support 8) Combi PC800 Pedal (on/off contact and vario. mode) 9) AC/DC Power Block and Cord 10) Workbench Stand for Micromotor

Start-up procedure :

- 1) Install the control unit on its screw-in mount
- 2) Connect the power block and cable (on the back)
- 3) Connect the pedal (on the back)
- 4) Connect 1 to 4 motors (on the back)
- 5) Turn on the control unit (Switch On)
- 6) Select the desired motor by simply pressing one of the 4 buttons.
- 7) Select the desired operating mode... BLUE light = Pedal mode / GREEN light = manual mode.
If using pedal mode, choose between contact on/off mode (switch up) or variable mode (switch down)
- 8) Select the desired motor rotation direction (note: the center position = temporary stop)
- 9) Adjust the desired working speed on the potentiometer for manual mode or operable via the pedal.

Your MX-4 Evolution LCD is now ready for use...

The control unit memorizes the last speed and operating mode set when you turn it off or switch to another motor.

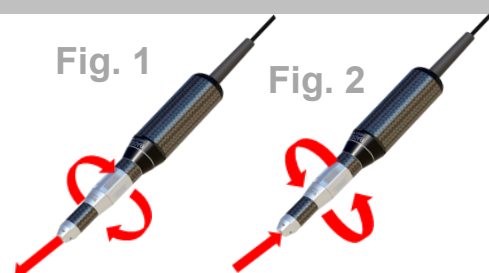


- * Use in a dry location and within a temperature range of 0°C to 40°C (32°F to 104°F).
- * Never place the control unit in a fire or heat it, as it may explode or cause electrolyte leaks.
- * Only use the original power adapter supplied with your MX-4 Evolution LCD to avoid damaging the control unit.
- * If any issues arise while using the adapter, immediately cut the power by unplugging it from the wall socket.
- * Only use original BADECO pedals, designed for the unit's electronics. Significant damage not covered by the warranty may occur if other pedals used.

Tool change - clamping and unclamping of the chuck :

To open / loosen the chuck (Fig. 1): Turn the metal ring from left to right in a clockwise direction until you hear a click. Remove the tool to be replaced (bur, rubber, etc.) and insert the new one all the way in.

To close / tighten the chuck (Fig. 2): Turn the ring slightly in a counterclockwise direction, without waiting for a click (as this could unscrew the handpiece). The spring will automatically tighten the chuck.



- * Always turn off the device completely before disassembling the handpiece to change the chuck.
- * Always clean the tools thoroughly before inserting them. Clean the head of the handpiece, the shaft, and the chuck before reassembling.
- * Always insert the tool's shank so that it touches the back of the chuck before tightening. If the shank is not fully inserted, there is a risk of the tool being ejected due to vibrations. After replacing the tool, ensure that the chuck is firmly closed.
- * Hold the handpiece securely before starting the motor.
- * NEVER run the device idle (without tools) in either the open or closed position, as this may damage the clamping system.

How to use the handpiece :

Screw the handpiece onto the associated motor. Connect the motor to the control unit and switch it to On.
Adjust the speed manually using the adjustment knob or by using the foot pedal depending on the operation.
To change the motor's direction of rotation, use the left/right switch.

Please note, Badeco motors are set to start only at the speed where optimal performance is reached. This may result in a small, perfectly normal jerk at start-up.



- * When the handpiece is rotating and the chuck is tightened, do not touch the tool to avoid injury.
- * If the tool appears damaged or bent, do not attempt to straighten it while running or stopped inside the handpiece. Replace it !
- * It is possible to change the direction of rotation almost on the fly, as the switch has a neutral middle position.
- * Do not let the handpiece run idle for too long.

How to use the foot pedal :

- 1) Connect the foot pedal to the control unit (on the back),
- 2) Select the pedal mode by pressing the selection button (blue light = pedal mode),
- 3) Adjust the desired maximum speed using the rotating button (relative speed in % indicated on the display),
- 4) Use the switch to set the pedal's operating mode (On/Off or variable control),
In On/Off contact mode, the motor starts at the set speed with a simple press. In variable mode, the speed gradually increases up to the maximum.
- 5) The micromotor/handpiece operates when the user presses the pedal,
- 6) The pedal speed settings are saved independently for motors 1 and 2.

Automatic energy-saving mode :

The control unit power supply (Class VI) automatically enters standby mode after 3 minutes of inactivity.

Overheat protection system :

BADECO devices are configured for industrial use without limitations or restrictions, provided that good practices are followed. Overheating of the device beyond the predefined value will trigger the protection system to shut down the transistor. In the event of overheating, do not push the device further, as this may cause damage requiring repairs.

Available accessories / motors / handpieces :

STRONG range (RS2000 Micromotor)	
Micromotor RS2000 (Ø26mm - 150mm - 205g - 180W - 24.7cNm - 20,000 RPM)	
HP 465: Quick change rotary handpiece (standard chuck Ø 2.35 / Ø 1.6 or Ø 3.0 optional)	
HP 450: Quick change rotary handpiece (Strong)	
HP 388: Rotary handpiece with interchangeable chucks	
HP 380: Handpiece with chuck (Ø 0 to 4.5 mm)	
HP 318: Hammer handpiece for riveting and crimping with integrated 1/4 reducer (318C strong impact / 318SP medium impact / 318USP ultra-fine impact)	
HP 4LC050 & HP 4LC100: Microfilers with stroke lengths of respectively 0.5mm and 1mm	
M4-RS400: 1/4 speed reducer for the Strong range to increase the motor's torque (power) at low speeds	
M4-026: Side support for Strong motors	
PC800: Dual-function foot pedal (On/Off switch and vario speed controller)	
Nano Light Range (RS3000SP and RS3000V Micromotors)	
Micromotor RS3000SP (Ø17mm - 120mm - 100g - 90W - 15.5cNm - 12,500 RPM)	
Micromotor RS3000V (Ø17mm - 105mm - 84g - 55W - 11.3cNm - 30,000 RPM)	
HP 460: Quick change rotary handpiece (standard chuck Ø 2.35 / Ø 1.6 or Ø 3.0 optional)	
HP 518: Hammer handpiece for riveting and crimping without reducer (518C strong impact / 518SP medium impact / 518USP ultra-fine impact)	
HP 528: Hammer handpiece for riveting and crimping with integrated 1/4 reducer (528C strong impact / 528SP medium impact / 528USP ultra-fine impact)	
HP 5LC050 or HP 5LC100: Nano-filers with stroke lengths of 0.5mm or 1mm, respectively	
Nano-400: 1/4 speed reducer for the Nano Light range to increase the motor's torque (power) at low speeds	
Nano-017: Side support for Nano Light motors	
PC800: Dual-function foot pedal (On/Off switch and vario speed controller)	

Precautions :

The safety instructions below must be read carefully to avoid potential hazards that could result in injury and/or damage to the equipment.

- 1) Install the control unit in a room with an appropriate temperature (0 ~ 40°C), in a dry and not too dusty place.
Excessive heat and/or humidity can damage the control unit.
- 2) Carefully remove the control unit from its packaging.
- 3) Do not drop the handpiece. This could damage the ball bearings or reduce the lifespan of the handpiece.
- 4) Never plug in or unplug the power cord with wet hands to avoid electric shocks or short circuits..
- 5) Never use a damaged power cable to avoid short circuits.
- 6) Do not overload a single power outlet with too many plugs. Fire hazard.
- 7) Do not disassemble the components of the control unit.
- 8) Never spray or clean the control unit, motors, or handpieces with water or any other liquid.
- 9) In the event of liquid leakage or deformation of the control unit, turn off the device and contact your dealer.
- 10) Use the device carefully to ensure user safety.
- 11) Do not use, store, or leave the device near a high heat source.
- 12) Always be attentive to play, vibrations, noise, and overheating of the device.
- 13) Place the motor and handpiece on their stand when not in use.
- 14) Do not turn off the control unit (On/Off switch) for a temporary stop. Instead, use the neutral central position "temporary

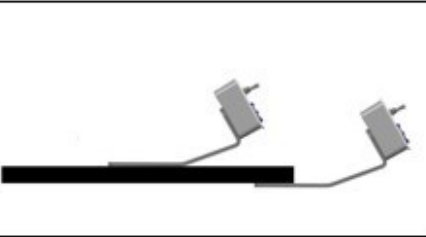

CE : Declaration of conformity :

We hereby declare, under our responsibility, that this product complies with the applicable standards in force within the EU.

European Union (and EEA) only :

This symbol indicates that this product is not to be disposed of with your household waste, according to the WEEE directive (2002/96/EC) and your national law. This product should be handed over to a designated collection point, e.g., on an authorized one-for-one basis when you buy a new similar product or to an authorized collection site for recycling waste electrical and electronic equipment (EEE). Improper handling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, waste authority, approved WEEE scheme or your household waste disposal service. (EEA : Norway, Iceland and Liechtenstein)

MX screw mount installation :

<p>The MX mount can be screwed horizontally on top of the workbench</p> <p>The MX mount can be screwed horizontally underneath the workbench</p>	
<p>The MX mount can be screwed vertically on the workbench</p>	
<p>MX-4 Evolution LCD controller integrable into the workbench (vertically)</p> <p>MX-4 Evolution LCD controller integrable into the workbench (horizontally)</p> <p><i>Note: In the case of integration, plan for motor cable extensions to place the connections where you want them.</i></p>	