ACS labelling systems

MGS 50 / MGS 60

Operating manual
V1.2

As of February 2018
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1. Introduction

By buying the MGS 50 / MGS 60 you have acquired a flexible engraving device which will enable you to easily engrave materials made from plastics and aluminum (DM, DMG, ALU, ALM).

**Product description**

Tough device structure made of aluminum profiles

Working range dimensions
- MGS 50 - 220 mm x 305 mm (A4)
- MGS 60 - 440 mm x 305 mm (A3)

Easy change of base plates for different engraving materials

Engraving materials in thickness of up to 2.5 mm can be worked.

Universal voltage supply of 100-240V AC

PC interfaces: USB connection 2.0

Command language: HPGL

Material fixing by means of vacuum fixing plate or adhesive mat (option)

Vacuum cleaner connection for suction removal of engraving chips

Engraving depth indicator

All information, instructions, and descriptions in this manual refer to (if not indicated otherwise) both the MGS 50 (A4) as well as the MGS 60 (A3) since the different work surface resp. paper size is the only distinctive feature.
2. Scope of delivery

Upon receipt of the device check the shipment for completeness. Please keep the outer packaging in case the device needs to be sent in for service or repair.

Scope of supply:

1. Engraving system MGS 50 / MGS 60
2. Power cable (DE + USA)
3. USB data cable
4. Engraving spindle with tool 0.5 mm / 15°
5. Engraving spindle connecting cable 3-pin
6. Vacuum cleaner connecting cable 4-pin
7. Vacuum hose
8. Support arm with holder and clamping piece
9. Operating manual
10. CD software and driver (no picture)
3. Safety instructions

**Basic safety instructions.**

**Caution: Read these before using the device.**

When using the engraving unit, referred to hereinafter as the ‘electrical device’, the following basic safety measures are to be respected to provide protection against electric shock, injury, and the risk of fire. Read and observe all these instructions before you use the electrical device. Keep these Safety Instructions in a safe place.

**Only use the electrical device in accordance with the instructions and observing the general safety and accident prevention regulations.**

- Take account of environmental influences.
  Do not use the electrical device in damp or wet surroundings.
  Ensure that you have good lighting.
  Operation in the open air is prohibited.
  Do not use the electrical device in the vicinity of combustible fluids or gases.

- Check the electrical device for possible damage.
  On each occasion before using the electrical device, the protective devices or easily damaged parts must be carefully checked for proper problem-free function. Check whether the moving parts are functioning properly and not jamming, or whether any parts are damaged. All the parts must be correctly fitted and fulfil all the conditions to guarantee the problem-free operation of the electrical device. Damaged protective devices and parts must be properly repaired or replaced by an approved specialist workshop, unless indicated otherwise in the operating instructions. Damaged switches must be replaced at a customer service workshop. Do not use any electrical devices on which the switch does not allow it to be turned on and off.

- Keep away from children.
  Do not allow other people to touch the electrical device or the cable.
  Keep other people away from your work area. Only allow the
• electrical device to be handled by trained personnel. Young persons may only operate the electrical device if over the age of 16, if this is required to achieve the aim of their training, and if they are under the supervision of a technical specialist.

• Protect yourself from electric shock. Avoid bodily contact with earthed parts, such as pipes, radiators, ovens, or refrigerators. The electrical device is equipped with an earthed conductor. Only connect the plug to a socket with earthing contact. The electrical device is only to be operated with the mains by way of a 30mA residual current circuit breaker.

• Wear suitable work clothing. Do not wear loose clothing or jewellery which could become caught by moving parts. If you have longhair, wear a hairnet.

• Use personal protective equipment. Wear protective goggles. Wear ear defenders to provide protection against noise > 85 dB (A). If working in heavily dust-laden environments wear a respirator mask.

• Do not use the cable for purposes for which it was not intended. Never carry the electrical device by the cable. Do not use the cable to pull the plug out of the socket. Protect the cable against heat, oil, and sharp edges.

• Keep your work area in good order. A disorderly work area can result in accidents.

• Avoid an abnormal bodily posture. Ensure you have a secure place to stand and keep your balance at all times.

• Stay alert. Pay attention to what you are doing. Take a serious approach to your work. Do not use the electrical device if you are not focused.
Avoid unintentional starts.
Ensure that the switch is turned off when you insert the plug into the socket.

Take the plug out of the socket.
Take the plug out of the socket when carrying out any of the work described for taking the device into operation and carrying out maintenance or repairs, when changing tools, and when the device is not in use.

Use the correct device.
Only use the engraving unit with a plotter (electrical device) for the purposes described in the manual.

Secure the material which is to be worked on.
Ensure that the universal mounting plate has sufficient adhesion, and clean it regularly under running water. Only use mounting plates manufactured exclusively by Murrplastik for mounting the material which is to be worked on.

Never try to take hold of moving (rotating) parts.

Do not overload your electrical devices.
You will work better and more safely in the performance range indicated. Replace worn tools in good time.

Look after your tools carefully.
Keep the tools sharp and clean in order to work better and more safely. Follow the maintenance instructions and the instructions for changing tools. Check the cable of the electrical device regularly and have it replaced by an approved specialist if it becomes damaged. Check the extension cable regularly and replace it if it becomes damaged. Keep the devices dry and free of oil and grease.

Store your electrical device safely.

Unused electrical devices should be deposited or stored in a dry place, off the ground or locked away, out of reach of children.
Caution. Follow these instructions without fail
For your personal safety and to secure the intended function of the electrical device, use only original accessories and original spare parts. The use of other tools and other accessories may incur the risk of injury for you. Only allow the electrical devices to be repaired by an authorized Murrplastik Service Centre. This electrical device meets the relevant safety regulations. Maintenance and repair work, in particular interventions into the electrics, may only be carried out by specialist or trained personnel, making use of original spare parts; this may otherwise incur accidents for the user. For safety reasons, no modifications may be carried out on the electrical device by users themselves. This will lead to any claims against the manufacturers being rendered null and void.

Special safety instructions regarding the operation of the engraving spindle.
The engraving spindle may only be operated in the engraving head provided for that purpose. During operation, temperature increases occur at the spindle, which must be taken into account in particular when replacing the engraving needle. It is therefore recommended that the spindle be allowed to cool off after operation before the engraving needle is replaced or the engraving head is dismantled.

Safety instructions

Keep the operating instructions in a safe place.
This device complies with all recognised technical standards and all relevant safety regulations.
The mains power supply used must correspond with that specified on the name plate.
Use in dry conditions only.
Disconnect the device from the mains socket by pulling the plug, not the cord.
All repairs, including replacement of mains power supply components, must be performed by a qualified service technician.
4. Product overview

1. Engraving surface
2. Connection for engraving spindle
3. Connection for vacuum cleaner
4. On/Off switch
5. Fuse
6. Mains connection
7. USB connection
8. Operating panel/keypad
9. Engraving arm
10. Norm (zero setting) contact surface
11. Pins for base plate
12. Engraving head
13. Engraving depth indicator
14. Mounting for support arm
5. Putting into service

Attention! Please read the safety instructions on pages 36-38 before putting the device into service!

5.1 Installation location

The engraver is best set up in a dry, preferably dust-free location. Do not expose the device to direct sunlight.

Make sure that the connections are accessible at all times. Set up the device in such a way that it stands securely and firmly on the surface used.

Ensure that the engraving arm can move freely and is not blocked by any objects.

5.2 Connection

Connect the device by means of the mains power cable provided to a socket which has been installed according to regulations. The device has a variable input AC voltage of 100-240V AC, 50-60 Hz. The power cord is replaceable and can be adapted to country-specific requirements with different mains plugs.

The power connector is located at the rear left side of the MGS 50 / MGS 60, where you plug in the enclosed power cord.

Next to it are the connections for the vacuum cleaner and the engraving spindle.

Left of the On/Off switch is the 4A micro-fuse.

Connect the device via the enclosed USB cable with the PC. The connector is located at the rear right-hand side of the device.
5.3 Connectors at the rear side

1  USB connector
2  4-pin vacuum cleaner
3  3-pin spindle controller
4  Power cable connector
5  4A micro-fuse
6  On/Off switch
5.4 Connecting the engraving spindle

Insert the spindle into its holder

Insert the spindle as shown in the picture into the engraving head and close the quick-release lever. The spindle is already equipped with an engraving tool.

Make sure the spindle connector is pointing towards the quick-release lever.
5.5 Connect the cable to the spindle

(Pictures on page 12)
Move the engraving head manually (device must be switched off) to the bottom right corner.

As shown in the illustration (next page), place the engraving spindle into the engraving head and clamp the spindle tight with the quick-release lever. The engraving spindle is already fitted with an engraving needle.

Connect the 3-pin spindle cable with the spindle and the engraver. Place the cable into its holder on the support arm.

5.6 Mounting the cable and hose support unit

Plug the aluminium support arm (2) into ist holder (1). Plug the cable and hose support (3) into the support arm.
5.7 Connecting a vacuum cleaner (optional)

(See pictures below, illustration B)

To vacuum off material debris when engraving you can either use the Murrplastik vacuum cleaner G3 VC or any commercially available vacuum cleaner.

**Connecting the vacuum unit G3 VC, part number 86622060 (optional)**

Required:

- Vacuum unit G3 VC
- Suction hose
- 4-pin connecting cable

If possible place the vacuum cleaner on the left next to the engraver. Now connect the 4-pin vacuum cleaner connection cable provided with the engraver to the vacuum cleaner and the engraver and tighten the screw connections to hand tightness. Next remove the stopper on the vacuum cleaner and insert the vacuum cleaner hose into the vacuum cleaner.

Connecting the 4-pin connection cable.

During the engraving process the vacuum cleaner switches on automatically and switches off again when the process has ended.
Connecting an external vacuum cleaner

Required:
Controllable socket
+ hose adapter
Suction hose*
4-pin connecting cable* (* Scope of supply of the Engraving Option)

Controllable socket overview

1. Power cable connector for vacuum cleaner
2. Controllable socket – Power cable connector
3. Controllable socket – 4-pin cable connector to MGS 50 / MGS 60

Connecting diagram

A – Suction hose
B – Hose adapter
C – External vacuum hose
5.8 Replacing the vacuum cleaner filter

Conventional commercial vacuum cleaner bags are used for the vacuum cleaner (swirl Y98). Replacement bags can be obtained from Murrplastik or via a retail outlet.

To change the vacuum cleaner bag press down the catch on the vacuum cleaner. The cover with the suction hose and vacuum cleaner bag will open.

Before taking the bag out of its mounting, you must take off the suction hose. To do this, rotate the hose and draw it outwards at the same time. Re-installation takes place in the reverse order.
6. Operation

Once you have set up the MGS 50 / MGS 60 and the power supply and the data cable are connected, you can switch on the device.

Caution:
Before the device is switched on, please make sure that there are no obstructive objects on the working surface of the engraver which could interfere with the free movement of the engraving arm.

6.1 Switching the MGS 50 / MGS 60 ON and OFF

Turn the device on or off using the mains switch. When the device is switched on the engraving arm moves into the upper right-hand corner of the processing area and carries out auto-calibration. The green display lights up when the device is switched on. The device is now ready for operation and can receive data from the PC. All settings and actions are carried out via the operating panel.
6.2 The operating panel

All settings and actions are carried out via the control panel.

- Power control
  LED Green = On
- Spindle control
  LED Green = In operation
- Spindle control
  LED Red = Interference
- Vacuum device ON/OFF
  LED Green = In operation
- Change of spindle rotation speed RSV
- Change of spindle lowering speed VSZ
- Change of feed speed
- Zero setting of engraving tool
- Erasing print data in the device memory
- Interruption or termination of current engraving activity
Control buttons

HIGH / LOW rotational speed of engraving spindle
When engraving data are transferred from the PC to the engraver, the rotational speed of the engraving spindle will also be automatically transferred. If you want to change these data during the engraving process, you can change the speed by means of the appropriate buttons. Actuation of the HIGH button will increase the engraving spindle speed 5000 rpm (revolutions per minute), and actuation of the LOW button will reduce it by 5000 rpm.

HIGH / LOW lowering speed (VSZ)
When engraving data are transferred from the PC to the engraver, the lowering speed will also be automatically transferred. If you want to change these data during the engraving process you can change the speed by means of the appropriate buttons. By actuating the HIGH button, the lowering speed will be increased by 2 mm/sec. and by actuating the LOW button it is reduced by 2 mm/sec. Note: The adoption of the speed change takes place with a slight delay.

HIGH / LOW engraving speed
When engraving data are transferred from the PC to the engraver, the engraving speed will also be automatically transferred. If you want to change these data during the engraving process, you can change the speed by means of the appropriate buttons. By actuating the HIGH button, the engraving speed will be increased by 2 mm/sec., and by actuating the LOW button it is reduced by 2 mm/sec.

Note: The adoption of the speed change takes place with a slight delay.
Norm button (standardisation of the engraving needle, zero setting)
If the Norm button is pressed the engraving head will move to the position (bottom right of the device) beneath which a contact surface (1) is located, and the engraving head will be lowered slowly. As soon as the engraving needle reaches the contact surface, the lowering of the engraving head will stop and an audible signal will be issued. Now turn the depth adjuster (2) to the left until the audible signal stops. This sets the cutting depth of the engraving needle to zero.

Note: If there is no audible signal when the engraving head is lowered, turn the depth adjuster to the right until the signal does sound. Then turn it by one latch engagement position to the left. The signal will go out and the “zero position” is set. Press the button [C/ON] (3) in order to zero the value of the indicator.

Clear Buffer button
If there are data present in the device, this will be indicated by the yellow display lighting up. You can delete these data by using the Clear buffer button. To do this the device must be in Stop mode (red display illuminated).

Stop button
If the Stop button is actuated during a current job, the job will immediately be interrupted and the engraving head will move into the upper right-hand corner of the device. The red display indicates the interruption. When the button is actuated again the engraving arm will be calibrated and the engraving job continues. The red display will go out.
6.3 Setting the cutting depth

The engraving depth is adjusted with the depth regulator (depth adjuster). Dependent on the width and the point angle of the cutter used as well as the cutting depth different cutting widths can be achieved.

By turning the adjuster to the right (clockwise rotation) the cutting depth is increased. Turning to the left (counter-clockwise rotation) will decrease the cutting depth. When turning the adjuster you can feel it catch.

The cutting depth is adjusted in steps of 0.025 mm. The cutting depth set is shown in the display.
6.4 Applying the base plates


For MGS 50 A4 base plates can be used only.

The base plates GPU A4 / Vacuum plate A4 and the respective materials (DM/ALU/ALM) are applied as following:

Base plate orientation = Portrait
Material orientation = Portrait
First label position = Top right

Detailed overview: see diagram on page 23.

The vacuum base plate and the base plate GPU A4 are locked in place at the second top left hole. At the GPU A4 base plate this hole is hidden under the red rubber mat.

For MGS 60: A4 and A3 base plates

A4 base plates in landscape orientation (recommended)
GPU A3 in landscape orientation

Detailed overview: see diagram on page 23.
6.5  Applying the engraving material

GPU A4 / Vacuum base plate A4

The engraving material is placed with the first label top right. The white sticker points to the left. This applies for the vacuum plate as well.

GPU A3

The material is placed in landscape orientation. The first label is in the top left corner, the sticker points downwards.

Detailed overview: see diagram below.

Schematic diagramm

Placing base plates and materials according to device

<table>
<thead>
<tr>
<th>Device</th>
<th>Base plate</th>
<th>Base plate orientation</th>
<th>Material orientation</th>
<th>First label position</th>
<th>Paper size</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGS 50</td>
<td>GPU A4</td>
<td>Portrait</td>
<td>Portrait</td>
<td>Top right</td>
<td>MGS 50</td>
</tr>
<tr>
<td>MGS 50</td>
<td>Vacuum plate A4</td>
<td>Portrait</td>
<td>Portrait</td>
<td>Top right</td>
<td>MGS 50</td>
</tr>
<tr>
<td>MGS 60</td>
<td>GPU A4</td>
<td>Portrait</td>
<td>Portrait</td>
<td>Top right</td>
<td>MGS 50</td>
</tr>
<tr>
<td>MGS 60</td>
<td>Vacuum plate A4</td>
<td>Portrait</td>
<td>Portrait</td>
<td>Top right</td>
<td>MGS 50</td>
</tr>
<tr>
<td>MGS 60</td>
<td>GPU A4</td>
<td>Landscape</td>
<td>Landscape</td>
<td>Top left</td>
<td>MGS 60</td>
</tr>
<tr>
<td>MGS 60</td>
<td>Vacuum plate A4</td>
<td>Landscape</td>
<td>Landscape</td>
<td>Top left</td>
<td>MGS 60</td>
</tr>
<tr>
<td>MGS 60</td>
<td>2x GPU A4</td>
<td>Portrait</td>
<td>Portrait</td>
<td>Top right</td>
<td>MGS 60</td>
</tr>
<tr>
<td>MGS 60</td>
<td>GPU A3</td>
<td>Landscape</td>
<td>Portrait</td>
<td>Top right</td>
<td>MGS 50</td>
</tr>
<tr>
<td>MGS 60</td>
<td>GPU A3</td>
<td>Landscape</td>
<td>Landscape</td>
<td>Top left</td>
<td>MGS 60</td>
</tr>
</tbody>
</table>
6.6 Replacing the engraving tool

By the use of the new quick-release lever the spindle can be unloaded manually quickly and easily.

Taking out the engraving tool

Open the quick-release lever and unload the spindle manually.

Unscrew and remove the depth adjuster. Next you must release the clamping jaws by using the rotary knob at the end of the spindle. To do this push the knob in and turn it to the left. The jaws will now be open and you can remove the engraving needle.

Only release the clamping jaws just enough to allow the engraving needle to be removed. Never open the clamping jaws completely.

Applying the engraving tool

Only use engraving tools with a pole diameter of 3.0 mm. Any other engraving tools MUST NOT be used.

Slide the engraving needle into the clamping jaws as far as the identification ring and then tighten it up again. Now screw on the depth adjuster onto the engraving spindle again until the tip of the engraving needle is flush with the depth adjuster.

Now put the engraving spindle back into the engraving head and tighten the clamping block again with the quick-release clamping device. For the zero setting of the engraving needle now press the Norm key and proceed as described on page 16.
7. Device driver installation

Information:
For better visualisation of windows and their contents the theme "Windows Classic" was selected. Variations in view are therefore possible.

Connect the device via the USB cable supplied with your PC.

Open the window [Devices and Printers]. (Start / Devices and Printers).

Switch on the device now. It is essential that Windows can identify the device during the installation process.

Now click on [Add a printer].
Click on [Add a local printer].
The installation must be done manually as the driver is not certified by Microsoft.

Use an existing port from the list. If the device is the first USB device to be installed on this PC the virtual port is USB001. Otherwise it is the port with the highest number. Then click [Next].
Make sure the driver files are located on an accessible drive (harddisk/memory stick/cd etc.). If necessary the driver can also be downloaded from the Murrplastik Homepage via Service & Support / Software.

Now click on **[Have Disk...]** to set the path to the driver folder.

Click on **[Browse]** to set the path to the driver folder
Open the driver folder and select the *.inf file for the driver.

Once the path is set up correctly click on [OK].
(7) Select the device name MGS 50 or MGS 60 from the list and click on [Next].

(8) Change the printer name. MGS 50 to **VEC MVPS G3-T** / MGS 60 to **VEC MVPS G3**. Then click [Next].
The device is not the Windows default printer. Do not print a test page. Click [Finish].

The device is now added to the Windows "Devices and Printers" list.
8. Driver settings in Windows

Having installed the driver in Windows the [Paper size] and [Velocity] must be set up.

(1) Open the [Devices and Printers] window

Right-click the device and select **Printing properties** in the context menu. Then click the [Preferences] tab.
(2) **Layout tab**

Orientation is set to **Portrait**. Click [Advanced].

(3) **Paper size**

Paper size is **MGS 50** or **MGS 60**.
(4) **Engraving speed**

Select the [Device settings] tab.

Set the velocity (speed) for Black and Red to 1.0 cm/sec.
9. ACS software settings

Start the ACS Software and click on [Settings] / [Output Device Setup].

![Output Device Setup screen]

**MGS 50 with one GPU A4 base plate**

In the bottom half of the window select the appropriate device from the top list and click the [Add] button. Now the device shows up in both lists.

![Output Setup screen]

Enter the calibration values as shown in the picture:

\[
X = 0.0 / Y = 288.0 / \text{Rotation} 90^\circ.
\]
MGS 60 with one GPU A4 or one GPU A3 base plate
In the bottom half of the window select the **VEC MVPS G3** from the top list and click the [Add] button.
Now the device shows up in both lists.

Enter the calibration values as shown in the picture:
\[ X = 12.0 / Y = 288.0 / \text{Rotation 0°}. \]

MGS 60 with two GPU A4 base plates
In the bottom half of the window select the **VEC MVPS G3** from the top list and click the [Add] button.
Now the device shows up in both lists.

Enter the Frames/Row and the calibration values as shown in the picture:
\[ \text{Frames/Row} = 2 / X = 0.0 / Y = 152.5 / \text{Rotation 90°}. \]
10. Optional accessories

(Not included in the scope of delivery)

Base plate GPU A4 86621023
Base plate GPU A3 86621026
Vacuum plate A4 86622064
Vacuum pump 86622066
Vacuum cleaner G3 VC 86622060
Vacuum adapter set 86622062
[Controllable socket + Power cable + Hose adapter]
11. Cleaning and care

Protect the VE 600 from dust and other dirt contamination. Cover it over when it is not in use. Wipe the device with a duster occasionally after use, either dry or moistened with a mild cleaning agent.

**Caution:**

*Never use pressure air to clean the engraving spindle!*  
Never use aggressive cleaning agents to clean the MGS 50 / MGS 60.  
Never oil the mechanical parts of your engraver.

**Handling the engraving spindle**

The engraving spindle is a sensitive unit and should be treated extremely carefully.

Please use the spindle in dust-free areas only. An excessive dust burden will lead to the sensitive bearings becoming clogged with dust, and then wearing out rapidly.

Never use compressed air to clean the spindles, because that will remove the lubricant from the ball bearings. Do not use any lubricants when engraving. Never clean the engraving spindle with water.

If, despite this, dust particles do appear in the clamping jaws, this may be indicated, for example, by unclean engraving. In this case, remove the engraving needle and rotate the jaws out with the aid of the rotary knob. Wipe out the front part of the jaw seat with a clean cotton swab (Q-tip).
### 12. Failure and correction

<table>
<thead>
<tr>
<th>Failure</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGS 50 / MGS 60 engraver cannot be switched on. The green “Power” LED is not lighting up.</td>
<td>Check whether the mains power connection cable is connected. Check whether the socket being used is in good order. Check whether the mains fuse on the device is in good order. To do this, pull out the mains cable at the infeed module and the fuse element next to the mains switch.</td>
</tr>
<tr>
<td>The red LED is illuminated on the device, “Spindle fault”. Caution: Engraving unit interrupts the engraving process.</td>
<td>High-frequency spindle is defective or there is an overload. To check this, actuate the buttons HIGH and LOW together on the device. This allows you to increase or reduce the rotational speed of the spindle with the buttons. If the red fault LED lights up again, the spindle is defective and must be replaced.</td>
</tr>
<tr>
<td>Engraving operation not possible.</td>
<td>Check whether the connection cable between the VE 600 and the spindle is connected. Refer to the instructions in the script creation software VarioSign. Has the correct output device been selected? Check the interface cable.</td>
</tr>
<tr>
<td>Engraving is not being carried out cleanly. Poor script image and/or burr formation on the engraved characters.</td>
<td>Check the engraving needle. If the tip is broken off or damaged the engraving needle must be replaced. Check whether there are any engraving chips in the spindle head or in the spindle clamping jaws. To do this, unscrew the depth adjuster and take the jaws out of the spindle. Clean the depth adjuster and the spindle clamping jaws as described in the Cleaning and Care section. <strong>Caution: Do not use compressed air for cleaning.</strong></td>
</tr>
<tr>
<td>The desired engraving depth is not being reached.</td>
<td>Check whether there is a sufficient distance between the depth adjuster and the engraving material, min .5 mm to about 1 mm. To do this, move the engraving head, with the device switched off, by hand over the engraving material and check the distance in this way.</td>
</tr>
</tbody>
</table>
13. Technical data

**MGS 50 / MGS 60**

- **x-y unit:** Flatbed engraver
- **Maximum engraving surface:**
  - A3: 440 mm x 305 mm / 17.32 inch x 12.01 inch,
  - A4: 220 mm x 305 mm / 8.66 inch x 12.01 inch
- **Engraving speed:** max. 20 mm/s / .79 inch/s
- **Interfaces:** USB Level 2.0
- **Command language:** based on HP-GL 7475A
- **Data buffer:** 16 MB
- **Drive:** Two-phase stepper motor
- **Addressable resolution:** .01 mm / .0004 inch
- **Repetition precision:** .05 mm / .002 inch
- **Voltage supply:** 100-240V AC 50-60Hz
- **Input current:** .7 A max.
- **Ambient conditions:**
  - **Operation:** 10°C - 35°C / 50°F - 95°F
  - 35% - 75% rel. air humidity
  - **Storage:** -10°C - 50°C / 14°F - 122°F
  - 10% - 90% rel. air humidity
- **Safety certificates:** EN 60950-1
- **Operational reliability:** EN 55022 B
  - EN 61000-4-2 bis 6
  - EN 61000-4-11
- **Dimensions (length x depth x height):**
  - MGS 50: 470 x 480 x 195 mm
    - 18.5 x 18.9 x 7.68 in
  - MGS 60: 690 x 480 x 195 mm
    - 27.17 x 18.9 x 7.68 in
- **Weight:**
  - MGS 50: 7 kg / 15.43 lb
  - MGS 60: 8,85 kg / 19.51 lb

**Engraving spindle**

- **Rotational speed:** min. 5000 RPM, max. 50.000 RPM
- **Torque:** 6 Ncm
- **Frequency:** 83-830 Hz
- **Power consumption:** max. 60 W
- **Clamping jaws:** Shaft diameter 3 mm / .12 inch;
- **Clamping mechanism:** Head gripping
- **Concentricity with clamping jaws:** .03 mm / .001 inch
- **Motor design:** Three-phase AC asynchronous, brushless
- **Housing:** Aluminum
- **Clamping diameter:** 25 mm / .98 inch
- **Ball bearing type:** Steel, permanent lubrication, two-fold
- **Cooling:** Self-ventilating with integrated fan
- **Weight:** approx. 280 g / .62 lbs
- **Overall length:** approx. 175 mm / 6.89 inch
- **Scope of use:** Exclusively for engraving
- **Guaranteed bearing service life:** min. 1000 hours with appropriate use
14. Contact Murrplastik

Technical support

📞 +49 7191 482-2222

📧 acs.helpdesk@murrplastik.de
Declaration of European Conformity

We as EK-TEAM GmbH
Schnackenburgallee 43-45
22525 Hamburg

hereby declare, that the test of the Engraving unit
VE 600 produced as OEM variant MGS 50 and MGS 60

were successfully passed by following directives:
Low voltage directive 2006 / 95 / EG and
EMC directive 2004 / 108 / EG.

The Engraving unit meets the following safety and EMC requirements:

Information technology equipment - Safety - Part 1: General requirements
DIN EN 60950-1/A11:2004

Electromagnetic compatibility - Generic standards - Immunity for Industrial environments
DIN EN 61000-6-1 : 10.2007

Electromagnetic compatibility - Generic standards – Immunity standards for residential, commercial and light-industrial environments
DIN EN 61000-6-3 : 09.2011

Electrostatic discharge immunity test:
DIN EN 61000-4-2 : 12.2009

Radiated, radio-frequency, electromagnetic field immunity test
DIN EN 61000-4-3 : 04.2011

Electrical fast transient/burst immunity test:
DIN EN 61000-4-4 : 04.2013

Surge immunity test
DIN EN 61000-4-5 : 06.2007

Immunity to conducted disturbances, induced by radio-frequency fields:
DIN EN 61000-4-6 : 09.2012

Voltage dips, short interruptions and voltage variations immunity tests:
DIN EN 61000-4-11 : 02.2005

Electromagnetic compatibility – Limits for harmonic current emissions
DIN EN 61000-3-2 : 03.2010

Electromagnetic compatibility – Limitation of voltage fluctuations and flicker
DIN EN 61000-3-3 : 07.2012

[Signature]

EK-TEAM GmbH

Hamburg, 23.05.2014