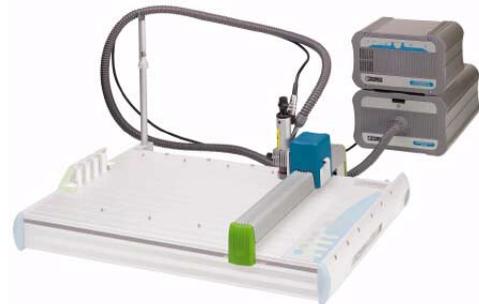


P1 ENGRAVING UNIT

Engraving Unit for the CMS-P1-PLOTTER



CLIPLINE

Data Sheet
103072_00_en

© PHOENIX CONTACT - 10/2006

Description

The engraving unit has been specially developed for use on the CMS-P1-PLOTTER.

The engraving unit is designed for use on the CMS-P1-PLOTTER for the purpose of engraving plastic labels. Plastic sheets with pre-assembled labels are available from Phoenix Contact.



It cannot be adapted for use with a different X-Y unit.



Only CMS-P1-PLOTTERS with a manufacturing date of January 2004 or later can be used in conjunction with the engraving unit. For the manufacturing date, refer to the rating plate on the CMS-P1-PLOTTER.

PH X MM Y ZZZ (Y = year, MM = month)
Example: PH 0 07 6 001 = device manufactured in July 2006

For normal applications, we recommend the use of gravers with a grinding angle of 15°. These are available in widths of 0.2, 0.3, 0.4, 0.5, 0.7, and 1.0 mm.



The engraving unit is designed for use on the CMS-P1-PLOTTER for the purpose of engraving plastic labels. The use of other materials, such as aluminum, brass, steel, and glass is not permitted.



The use of lubricants and coolants is not permitted, as the vacuum cleaner used cannot handle liquid materials.



Only use Phoenix Contact gravers.



Make sure you always use the latest documentation. It can be downloaded at www.download.phoenixcontact.com.

A conversion table is available on the Internet at www.download.phoenixcontact.com/general/7000_en_00.pdf.



This data sheet is valid for all products listed on the following page:

P1 ENGRAVING UNIT

Table of Contents

Description	1
Ordering Data	3
Technical Data	4
Scope of Supply	5
Connection and Assembly on the CMS-P1-PLOTTER	6
Removing of the Pen Lowering Unit From the Plotter	6
Fitting the Engraving Head	6
Setting Up the Vacuum Cleaner and Control Unit	6
Connecting the Connecting Cables	6
Inserting the Engraving Spindle in the Engraving Head	7
Aligning the Engraving Unit	7
Assembling the Holder for the Tube and Engraving Spindle Cable	7
Connecting the Tube and Cable to the Engraving Head	7
Fitting the Cover	8
Switching From Plotting to Engraving (Test Run)	8
Inserting Engraving Material	8
Engraving	8
Important Notes on Engraving	8
Control Unit Functions and Indicators	9
Engraving Material	9
Setting the CMS-MARK-WIN Software to Engraving Mode	9
Engraving Individual Labels	10
Setting the Engraving Depth	10
Changing Gravers	10
Cleaning and Maintaining the Engraving Unit	11
Changing the Vacuum Cleaner Bag	11
Cleaning the Motor Filter	12
Handling the Engraving Spindle	12
Cleaning the Engraving Spindle	12
Switching from Engraving to Plotting	12
Troubleshooting	13
Firmware Upload	14
Magazine Import in CMS-MARK-WIN	15
EC Declaration of Conformity	16

P1 ENGRAVING UNIT

Ordering Data

Engraving Unit

Description	Type	Order No.	Pcs./Pck.
Engraving unit for the CMS-P1-PLOTTER	P1 ENGRAVING UNIT	5145546	1

Gravers

Description	Type	Order No.	Pcs./Pck.
15° graver, Ø 0.2 mm	P1 GRAVER 0.2	5145478	1
15° graver, Ø 0.3 mm	P1 GRAVER 0.3	5145481	1
15° graver, Ø 0.4 mm	P1 GRAVER 0.4	5145494	1
15° graver, Ø 0.5 mm	P1 GRAVER 0.5	5145504	1
15° graver, Ø 0.7 mm	P1 GRAVER 0.7	5145517	1
15° graver, Ø 1.0 mm	P1 GRAVER 1.0	5145520	1
15° gravers, set comprising the six gravers listed above	P1 GRAVER SET	5145533	1

Non-Slip Pads

Description	Type	Order No.	Pcs./Pck.
Plastic magazine for the CMS-P1 plotter with engraving unit To hold 1 GPE label sheet	CMS-P1-M/GPE ENGRAVING	5145711	1
1 non-slip mat, sufficient for one plastic magazine	CMS-P1-M/GPE-PAD	5144880	1

Engraving Material

Description	Type	Number ¹	Order No.	Pcs./Pck.
Plastic label sheet, self-adhesive double-layer plastic labels, material thickness of 0.8 mm, suitable for plotting and engraving				
13 mm x 9 mm, square, color: white	GPE 13X 9 WH	120	0806932	10
17.5 mm x 12 mm, square, color: white	GPE 17,5X12 WH	75	0806916	10
20 mm x 7 mm, square, color: white	GPE 20X 7 WH	100	0806990	10
20 mm x 8 mm, square, color: white	GPE 20X 8 WH	88	0806945	10
22 mm x 12 mm, square, color: white	GPE 22X12 WH	60	0806929	10
22 mm x 22 mm, with rounded corners, radius of 2 mm, color: silver	GPE 22X22 SR/R	32	0806628	10
27 mm x 8 mm, with rounded corners, radius of 2 mm, color: silver	GPE 27X 8 SR/R	66	0806877	10
27 mm x 8 mm, with rounded corners, radius of 2 mm, color: white	GPE 27X 8 WH/R	66	0815198	10
27 mm x 12.5 mm, with rounded corners, radius of 2 mm, color: silver	GPE 27X12,5 SR/R	4	0806880	10
27 mm x 18 mm, with rounded corners, radius of 2 mm, color: silver	GPE 27X18 SR/R	30	0806893	10
27 mm x 18 mm, with rounded corners, radius of 2 mm, color: white	GPE 27X18 WH/R	30	0815208	10
27 mm x 27 mm, with rounded corners, radius of 2 mm, color: silver	GPE 27X18 SR/R	18	0806903	10
28 mm x 17.5 mm, square, color: silver	GPE 28X17,5 SR	30	0807889	10
45 mm x 14 mm, with rounded corners, radius of 2 mm, color: silver	GPE 45X14 SR/R	26	0807009	10
45 mm x 14 mm, with rounded corners, radius of 2 mm, color: white	GPE 45X14 WH/R	26	0815282	10
52 mm x 26 mm, square, color: white	GPE 52X26 WH	9	0806958	10
60 mm x 12 mm, with rounded corners, radius of 2 mm, color: silver	GPE 60X12 SR/R	21	0806631	10
60 mm x 12 mm, with rounded corners, radius of 2 mm, color: white	GPE 60X12 WH/R	21	0807630	10
60 mm x 30 mm, square, color: white	GPE 60X30 WH	9	0806961	10
60 mm x 30 mm, with rounded corners, radius of 2 mm, color: white	GPE 60X30 WH/R	9	0815292	10
Special version according to customer requirements (please specify: size of the individual label, color, and radius. The number of labels depends on the size.)	GPE SO	–	0807627	10

¹ Number of labels per sheet

Replacement Parts

Description	Type	Order No.	Pcs./Pck.
Control unit	P1 ENGRAVING CONTROLLER	5145698	1
4 A fine-wire fuse for the control unit	P1 ENGRAVING FUSE 4A	5145669	1
Vacuum cleaner	P1 ENGRAVING VC	5145708	1

P1 ENGRAVING UNIT

Replacement Parts (Continued)

Description	Type	Order No.	Pcs./Pck.
Vacuum cleaner bag	P1 ENGRAVING VC BAG	5145559	5
Filler plug for the vacuum cleaner	P1 ENGRAVING VC PLUG	5145630	1
Engraving head	P1 ENGRAVING HEAD	5145575	1
Counter bearing for engraving head	P1 ENGRAVING CB	5145588	1
Cover for engraving head	P1 ENGRAVING COVER	5145658	1
Engraving spindle	P1 ENGRAVING SPINDLE	5145562	1
Adjustment aid for graver	P1 ENGRAVING PA	5145656	1
Suction tube for engraving spindle	P1 ENGRAVING TUBE	5145601	1
Connecting cable for engraving spindle	P1 ENGRAVING CC 1	5145591	1
Connecting cable for control unit and CMS-P1-PLOTTER	P1 ENGRAVING CC 2	5145614	1
Connecting cable for vacuum cleaner	P1 ENGRAVING CC 3	5145672	1
Holder for cable and tube support	P1 ENGRAVING CH	5145643	1
Support pipe			
Clamp for suction tube and engraving spindle cable			

Technical Data

Ambient Conditions for All Devices

Ambient temperature	
Operation	+10°C ... +35°C
Storage	-10°C ... +50°C
Relative humidity	
Operation	35% ... 75%
Storage	10% ... 90%

Engraving Spindle

Speed	
Minimum	5000 rpm
Maximum	50,000 rpm
Torque	6 Ncm
Frequency	83 Hz ... 830 Hz
Power consumption	60 W, maximum
Collet chuck	3 mm shaft diameter
Clamping mechanism	Head clamping
Concentricity with collet chuck	0.03 mm
Motor type	Three-phase asynchronous, without brushgears
Housing	Aluminum
Clamping diameter	25 mm
Ball bearing type	Steel, pre-lubricated, double
Cooling	Via integrated fan using internal air
Weight	280 g, approximately
Length	175 mm, approximately
Area of application	Engraving plastic labels
Guaranteed storage/service life	1000 hours, minimum, when used correctly

P1 ENGRAVING CONTROLLER Control Unit

Voltage input	110 V ... 240 V ~ 50 Hz ... 60 Hz
Fuse	4 A, slow-blow
Power consumption	150 W, maximum
Dimensions	180 mm x 250 mm
Weight	2.7 kg, approximately

P1 ENGRAVING UNIT

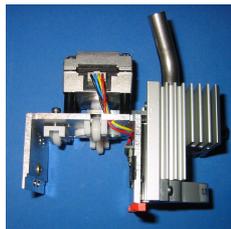
P1 ENGRAVING VC Vacuum Cleaner

Voltage input	24 V DC
Power consumption	50 W, maximum
Dimensions	350 mm x 250 mm
Weight	4.6 kg, approximately

Scope of Supply



Engraving spindle with 15° graver, Ø 0.5 mm



Engraving head



Counter bearing for engraving head



Connecting cable for engraving spindle (3-pos.)



Suction tube



Cover



Control unit



Connecting cable for control unit and plotter



Mains cable for control unit



Vacuum cleaner



Connecting cable for vacuum cleaner (4-pos.)



Holder for cable and tube



Calibration block for alignment



Adjustment aid for graver



Torx key wrench

P1 ENGRAVING UNIT

Connection and Assembly on the CMS-P1-PLOTTER

Removing of the Pen Lowering Unit From the Plotter



Figure 1 Removing the pen lowering unit

- Remove the blue-green cover of the pen lowering unit from the plotter and remove the red locking pin.



The pen lowering unit may be secured very tightly. Remove it very carefully so as not to damage the holder.

- Loosen and remove the pen lowering unit by gently "wobbling" it out of the guideway.

Fitting the Engraving Head



When fitting the engraving head, make sure that the head is inserted in both guideways.

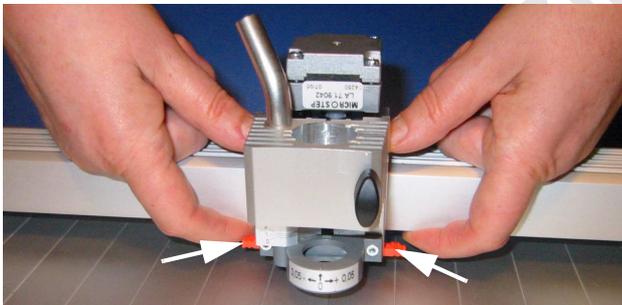


Figure 2 Fitting the engraving head

- Press down on the engraving head as far as it will go and stabilize the holder from below by applying counter pressure, so that the plotter arm guideway is not damaged.
- So that the engraving head cannot work loose during operation, close the red interlocking device on both sides.
- Check that it is secured correctly.



Figure 3 Attaching the counter bearing

- Snap the counter bearing onto the engraving head

Setting Up the Vacuum Cleaner and Control Unit

- Mount the control unit on the vacuum cleaner and place the two behind the CMS-P1-PLOTTER.

Connecting the Connecting Cables

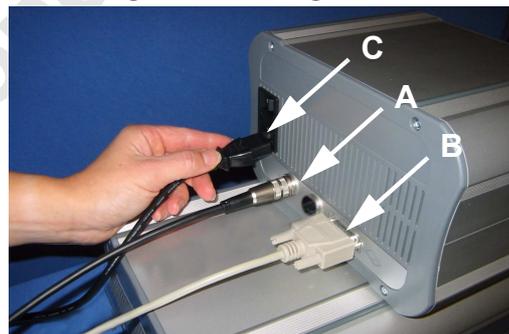


Figure 4 Connections to the control unit

- Connect the control unit and vacuum cleaner using the corresponding 4-pos. cable and tighten the connections (connection A in Figure 4).
- Connect the control unit to the CMS-P1-PLOTTER. Use the gray connecting cable provided and tighten the knurled screws (connection B in Figure 4).
- Connect the mains cable provided to the control unit (connection C in Figure 4). The fine-wire fuse (4 A) is connected in addition to the ON/OFF switch.

Inserting the Engraving Spindle in the Engraving Head



Risk of injury

The graver in the engraving spindle is sharp. Be careful not to injure yourself.



Observe the notes on handling the engraving spindle on page 12.

- Before inserting the engraving spindle, use the adjustment aid to check that there is a gap of three millimeters between the depth adjuster and engraving spindle (see Figure 20 on page 11).
- Insert the engraving spindle in the engraving head. The red marking on the depth adjuster must be lined up with the arrow on the engraving head (see Figure 16 on page 10).
- Secure the engraving spindle with the terminal screw (A in Figure 5).



Figure 5 Inserting the engraving spindle

Aligning the Engraving Unit



Figure 6 Alignment using the calibration block

- Make sure that the plotter is switched off. Place the calibration block provided on the CMS-P1-PLOTTER.
- Move the plotter arm with the engraving head towards the calibration block as far as it will go.

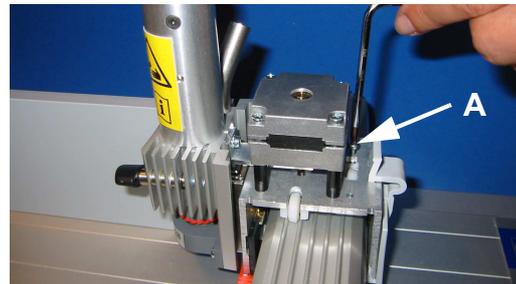


Figure 7 Alignment

- Now use the screw (A in Figure 7) on the engraving head to align the engraving unit at a right angle by turning it clockwise and counter clockwise. A suitable Torx key wrench is provided.

Assembling the Holder for the Tube and Engraving Spindle Cable



Figure 8 Assembling the holder over the plotter pen station

- First push the holder for the support pipe over the plotter base plate and then press the holder into the side profile.
- Insert the support pipe in the holder.
- Attach the clamp for the suction tube and engraving spindle cable to the support pipe.
- To ensure that the adjustment aid (figure on page 5) is always to hand, it can be secured to the support pipe.

Connecting the Tube and Cable to the Engraving Head



Figure 9 Connections to the engraving head

P1 ENGRAVING UNIT

- Make sure that the plotter and control unit are switched off.
- Manually position the engraving head in the bottom right corner of the CMS-P1-PLOTTERS.
- Now attach the suction tube to the engraving head, bend the tube slightly, and secure it in the clamp on the support pipe.
- Then insert the end of the tube in the opening on the vacuum cleaner.
- Now attach the engraving cable to the engraving head, bend the 3-pos. cable slightly, and secure it in the clamp on the support pipe.
- Connect the other end of the cable to the control unit and tighten the screw connections of the connector.

Fitting the Cover

The blue-green cover can only be fitted on the engraving head in one direction (long side towards the right on the front).

- Fit the cover in the correct position on the engraving head.

Switching From Plotting to Engraving (Test Run)



Risk of damage to the device

Always switch the control unit on before the plotter.
There must be **no magazine** on the plotter.

- **Always switch the control unit on first** via the mains switch on the back of the device.
- **Then** switch the CMS-P1-PLOTTER on.
The engraving unit moves towards the zero position. This is accompanied by a brief "humming" noise. The plotter then moves to the zero position.
- Switch the plotter and control unit off again.

Inserting Engraving Material

- Make sure that the plotter and control unit are switched off.



Secure the engraving material to be processed.
Make sure that the carrier plate has sufficient adhesive strength and clean regularly under running water.

Only use non-slip pads from Phoenix Contact to hold the materials to be processed.

- Place the CMS-P1-M/GPE ENGRAVING plastic magazine with the non-slip pad and engraving material on the plotter in the corresponding holders.
- Manually move the engraving head over the engraving material to check the gap between the engraving spindle and the engraving material.



There must be around 2 mm of space between the bottom end of the engraving spindle and the engraving material.

If the gap is greater or smaller than 2 mm, use the calibration block to check the right-angle alignment of the engraving unit.



Figure 10 Gap

- The control unit can now be switched on followed by the plotter; the engraving unit is ready to start.

Engraving

Important Notes on Engraving



The engraving unit is designed for use on the CMS-P1-PLOTTER for the purpose of engraving plastic labels. The use of other materials, such as aluminum, brass, steel, and glass is not permitted.



The use of lubricants and coolants is not permitted, as the vacuum cleaner used cannot handle liquid materials.



Only use Phoenix Contact gravers.



Only use the engraving unit in dust-free rooms. An excessively high level of dust can result in the sensitive bearing of the engraving spindle becoming clogged with dust and quickly wearing out.

P1 ENGRAVING UNIT

Control Unit Functions and Indicators

The control unit is switched on at the back, the green LED indicates that it is ready to operate.

The yellow LED indicates that the engraving spindle is operating without any errors, in the event of an error the red LED lights up and engraving is no longer possible. For notes on troubleshooting, please refer to "Troubleshooting" on page 13.

The control unit automatically controls the vacuum cleaner. If required, the vacuum cleaner can be operated manually via the ON and OFF buttons, e.g., to vacuum up any residual particles following engraving.

Engraving Material

Engraving works in the same way as plotting.

- Start the CMS-MARK-WIN software.



The procedure for the plotter is described in the CMS-P1-PLOTTER-UM E user manual.



Please observe the following points for engraving, which differ from plotting (see "Setting the CMS-MARK-WIN Software to Engraving Mode" on page 9).

Setting the CMS-MARK-WIN Software to Engraving Mode

- In the CMS-MARK-WIN software, select the "File... Print Setup..." menu.

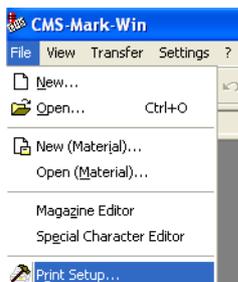


Figure 11 File... Print Setup

- In the following dialog box, click on "New...".

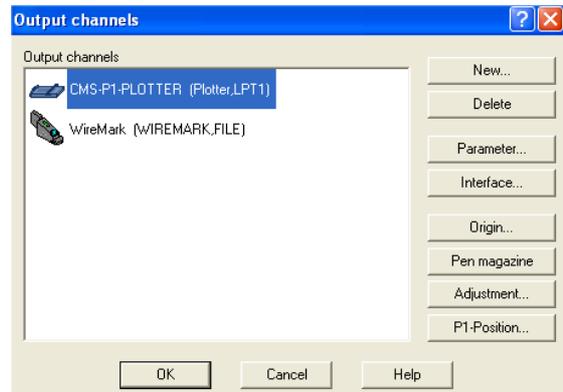


Figure 12 Output channels

- A dialog window appears, exit it by selecting "No".

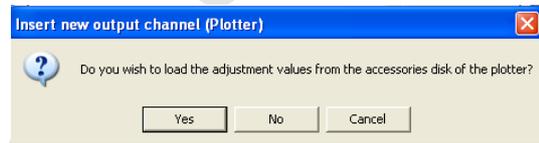


Figure 13 Creating a new output channel (plotter)

- Enter the following values for the plotter parameters.



Figure 14 Plotter parameters

- Enter a name under "Channel name".
- Select the "CMS-P1-Plotter" as the "Plotter area".



Risk of damage to the device

Deactivate the "Use the pen magazine" option.

- Confirm the parameters with "OK".

P1 ENGRAVING UNIT

Make sure that the interface between the plotter and PC is set up correctly. Check the interface set in the "Output channels" window ("File... Printer Setup..." menu) by clicking on "Interface...".

Change the default values for engraving mode.

- In the CMS-MARK-WIN software, select the "Settings... Default values..." menu.

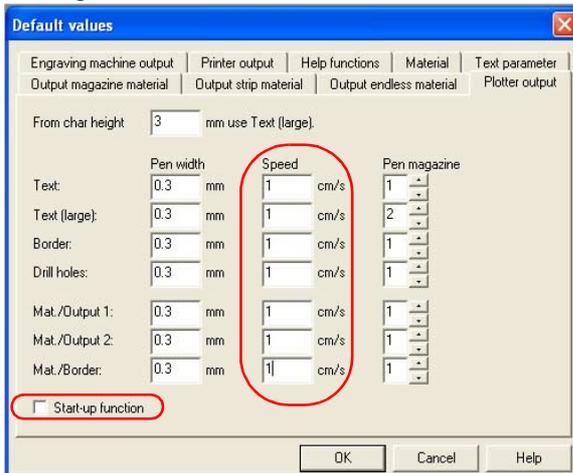


Figure 15 Plotter parameters

- Select the "Plotter output" tab.
- Change the speed for all items to 1 cm/s.
- Deactivate the "Start-up function" option.
- Confirm the parameters with "OK".

Engraving Individual Labels

With the engraving unit there is the option of not only engraving the labels on a label sheet, but also individual labels. Observe the notes for the source definition in the manual for the CMS-MARK-WIN software.

Setting the Engraving Depth

The depth adjuster on the engraving spindle is used to set the engraving depth. Depending on the width and the grinding angle of the graver used, as well as the penetration depth in the material, various lettering widths can be obtained when engraving.



Figure 16 Depth adjuster

The engraving depth is adjusted by turning the depth adjuster.

Turning clockwise increases the engraving depth, turning counter clockwise decreases the engraving depth.

When you use the depth adjuster, you will feel it click. Each click lowers or raises the graver by 0.05 mm.

If the depth adjuster is rotated clockwise by an entire rotation, an engraving depth of 1 mm (20 clicks of 0.05 mm each) is achieved. The depth can be read via the scale on the left-hand side of the engraving spindle.

Changing Gravers



Risk of injury

The graver in the engraving spindle is sharp. Be careful not to injure yourself.



Risk of burns

The graver and engraving spindle can be hot as a result of operation. Allow the graver to cool down following engraving before changing it.



The tips of gravers are sensitive and must be handled very carefully. Avoid damage to the tip. In the event of damage, the labeling quality is considerably affected.

- Switch off the plotter and control unit.
- Loosen the fixing on the engraving head and remove the engraving spindle.
The connecting cable does not have to be disconnected.



Figure 17 Unscrewing the depth adjuster

P1 ENGRAVING UNIT

- Now unscrew the depth adjuster from the engraving spindle.



Figure 18 Loosening the engraving spindle



Only loosen the collet chuck so that the graver can be removed.

- Press the rotary knob at the end of the engraving spindle and turn counter clockwise. The collet chuck is now open and the graver can be carefully removed.



Only use Phoenix Contact graters. If graters from other manufacturers are used, we accept no guarantee as to the lettering quality and for damage to units.



To ensure the correct length of the graver, always use the adjustment aid supplied.

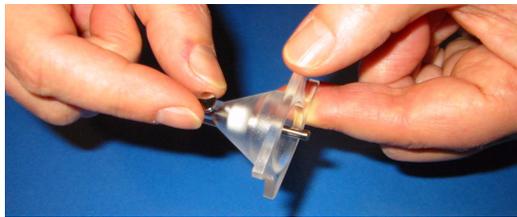


Figure 19 Securing the graver in the adjustment aid

- Insert the new graver in the adjustment aid with the tip pointing towards the front and secure it using the knurled screw.
- Push the graver with the adjustment aid into the collet chuck and screw it back together by pressing the rotary knob at the end of the engraving spindle and turning clockwise.
- Screw the depth adjuster back onto the engraving spindle.

The depth adjuster is in the zero position when a gap of three millimeters is achieved between the depth adjuster and engraving spindle.



Figure 20 Adjustment aid as a spacer

- Use the open end of the adjustment aid as a spacer between the depth adjuster and engraving spindle.
- Now insert the engraving spindle back into the engraving head and line up the markings on the depth adjuster and engraving head.
- Retighten the termination block.

Cleaning and Maintaining the Engraving Unit



Before starting any maintenance work disconnect the engraving unit from the mains.



Protect the engraving unit against dust and other contamination. Cover the device when it is not being used.



Never oil the mechanical parts of the engraving unit.

Changing the Vacuum Cleaner Bag



Figure 21 Opening the vacuum cleaner cover

Replacement vacuum cleaner bags can be ordered from Phoenix Contact (P1 ENGRAVING VC BAG, Order No. 5145559).

- Push down the latch above the suction tube on the vacuum cleaner. The cover opens with the suction tube and vacuum cleaner bag.
- Remove the suction tube by simultaneously turning and pulling it.

For assembly, perform the above in reverse order.

P1 ENGRAVING UNIT

Cleaning the Motor Filter



Figure 22 Motor filter

- If the cover has been opened as described above, the motor filter can be removed.
- Carefully remove the motor filter from the chamber for the vacuum cleaner bag.

Simply clean this filter as required.

Handling the Engraving Spindle



The engraving spindle is a sensitive unit and must be handled with extreme care.



Only use the engraving spindle in dust-free rooms. An excessively high level of dust can result in the sensitive bearing becoming clogged with dust and quickly wearing out.



Do not use a lubricant for engraving.

Cleaning the Engraving Spindle



Never clean the engraving spindle with compressed air, as this will remove lubricant from the ball bearings.

Never use water to clean the engraving spindle.



Figure 23 Cleaning the collet chuck of the engraving spindle

- Remove the graver and unscrew the collet chuck completely using the rotary knob (see page 10).
- Wipe the front part of the collet chuck seat with a clean cotton bud.
-

Switching from Engraving to Plotting

To switch from engraving back to plotting, perform the above in reverse order.

- Switch off the plotter and control unit and disconnect the mains plug on both devices.
- Disconnect the suction tube and connecting cable from the engraving head.
- Disconnect the control unit from the plotter and vacuum cleaner.
- Remove the support pipe with holder.
- Remove the cover from the engraving head.
- Remove the terminal screw and remove the engraving spindle.
- Release counter bearing.
- Release the interlocking device on the engraving head and pull the engraving head out of the plotter arm.
- Assemble the pen lowering unit and insert the locking pin. Fit the plastic cover.

Then change the default values for engraving mode:

- In the CMS-MARK-WIN software, select the "Settings... Default values..." menu.
- On the "Plotter output" tab, adjust the following items:
 - Change the speed for all items to 2 cm/s.
 - Activate the "Startup function" option, if required.
 - Confirm the parameters with "OK".

Troubleshooting

Error	Cause	Remedy
Unclean engraving, poor lettering quality and/or burr formation on the engraved characters.	Engraving shavings or dust particles in the collet chuck of the engraving spindle.	<ul style="list-style-type: none"> Clean the collet chuck of the engraving spindle (see page 12).
Poor lettering quality, uneven line width, gaps in labeling.	Graver worn out or clogged.	<ul style="list-style-type: none"> Replace graver (see page 10).
Engraving not visible. Desired engraving depth not achieved.	Insufficient engraving depth.	<ul style="list-style-type: none"> Make sure that the depth adjuster is set correctly with the adjustment aid (see page 11). Check that the gap between the depth adjuster and engraving material is around 2 mm. To do this, manually move the engraving head over the engraving material when the plotter is switched off (see page 8). Adjust the engraving depth (see page 10).
Red LED lights up on the control unit. Engraving unit has aborted the engraving procedure.	Engraving spindle is faulty or an overload has occurred.	<ul style="list-style-type: none"> To check, press the "ON" and "OFF" buttons on the control unit simultaneously. The vacuum cleaner continues running and the engraving spindle switches on after a brief delay. By pressing the "ON" or "OFF" button the speed of the engraving spindle can be increased or decreased in order to test the function of the engraving spindle. If the red LED is still lit up, the engraving spindle is faulty and must be replaced.
Engraving unit will not switch on. Green "Power" LED is not lit up on the control unit.	Insufficient power supply. Fuse has blown. Power supply unit is faulty.	<ul style="list-style-type: none"> Check that the socket that is used is OK. Check that the mains plug and connector are connected correctly. Check that the fuse in the mains connection of the control unit is OK. To do this disconnect the mains cable, remove the fuse insert from below the mains switch, and replace the fuse, if necessary (P1 ENGRAVING FUSE 4A, Order No. 5145698). Replace the power supply unit.
Engraving mode not possible.		<ul style="list-style-type: none"> Check that the connecting cable between the control unit and plotter is connected. Check that the engraving head has been fitted correctly and that the cable to the engraving spindle is connected. Observe the notes for the CMS-MARK-WIN software. Note the order when switching on: switch the controller on first, followed by the plotter.
Engraving unit does not respond to data sent by the PC.	Data cable connected incorrectly/faulty.	<ul style="list-style-type: none"> Check that the correct interface is set on the PC. Check the data cable and replace, if necessary.

P1 ENGRAVING UNIT

Firmware Upload



The method of operation of the P1 ENGRAVING UNIT depends largely on the firmware (software) that is installed in the plotter.

New firmware can be stored in the CMS-P1-PLOTTER in order to optimize the method of operation.

If an upload is performed via a **parallel interface**, depending on the computer configuration it may be necessary to deactivate or reassign existing printer drivers that use this interface.

In the event of upload via a **USB interface**, it must be ensured that the USB plotter driver has been installed first.

The data required for this can be downloaded from our homepage on the Internet or requested via the service hotline.

Proceed as follows to update the firmware:

- Save the downloaded files (uploadvp.exe and vp5n-xxx.cas) in a directory.
- Switch off the plotter and the connected PC.
- Connect the two devices using the supplied parallel data cable and switch them both back on again.
- To prepare the plotter for firmware download, press the [STOP/VIEW], [Clear Buffer], and [ON] buttons on the plotter simultaneously.
- Start the uploadvp.exe program on the PC (e.g., double-click from Explorer).

The following message appears on the PC.

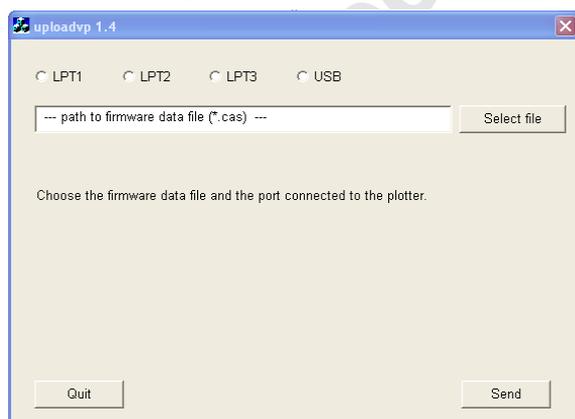


Figure 24 uploadvp 1.4

- Click on "Select file".

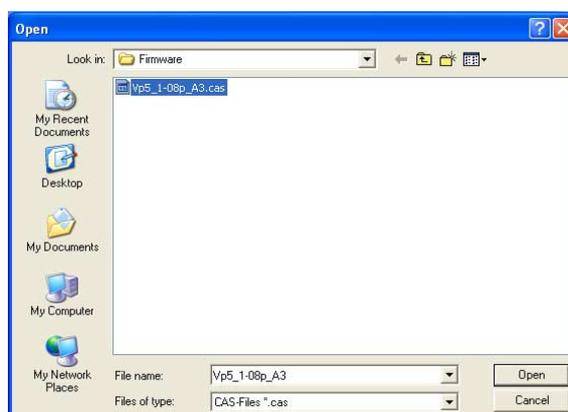


Figure 25 Open

A window containing a selection of program data (*.cas) to be loaded appears.

- Select the file to be loaded (e.g., vp5-1-07b_A3.cas from the same directory as the uploadvp.exe program).
- Click on "Open".

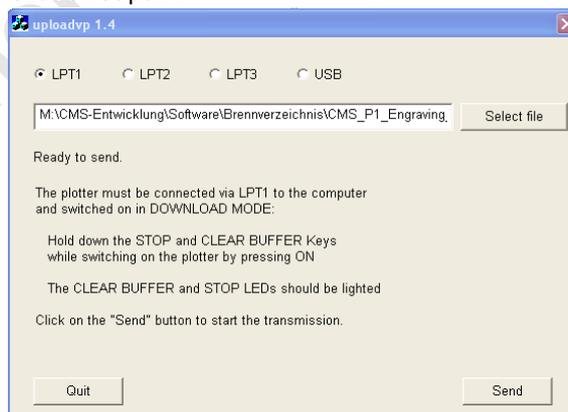


Figure 26 uploadvp 1.4

- Select the interface (e.g., LPT1). Start the upload by clicking on "Send".

The following message appears on screen:

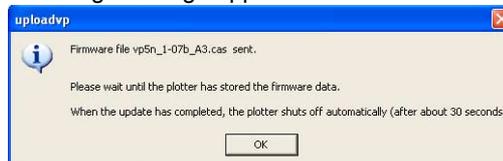


Figure 27 uploadvp 1.4

Following successful firmware upload, the plotter switches off automatically.

- Exit the uploadvp.exe program by clicking on "Quit".

Magazine Import in CMS-MARK-WIN



Figure 28 File... Magazine Editor

- In the CMS-MARK-WIN software, select the "File... Magazine Editor..." menu.

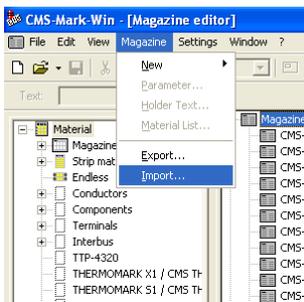


Figure 29 Magazine... Import

- In the window that appears, select "Magazine... Import...".

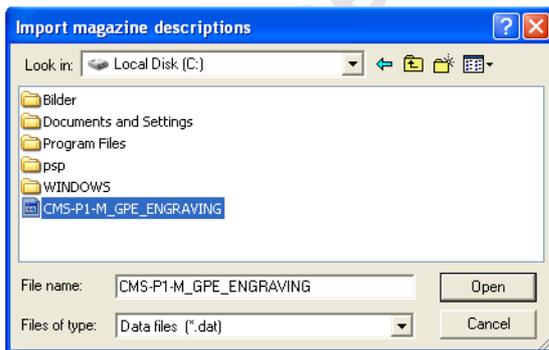


Figure 30 Import magazine descriptions

- Highlight the CMS-P1-M_GPE_ENGRAVING file and click on "Open".



Figure 31 Import magazine descriptions

- Confirm the dialog box by clicking "OK".



Figure 32 Import magazine

- Confirm the dialog box by clicking "Yes".



Figure 33 CMS-MARK-WIN

- Confirm the dialog box by clicking "OK".
- Close the magazine editor.
- Copy the magazine descriptions to the material directory in CMS-MARK-WIN (default: Drive:\Program Files\CMS-MARK-WIN\Materials\).



EC Declaration of Conformity

Manufacturer: **PHOENIX CONTACT GmbH & Co. KG**
Address: Flachsmarktstraße 8
32825 Blomberg, Germany

Product description: **P1 ENGRAVING UNIT**
(Order description, Order No.) **5145546**

The above stated product meets the provisions of the following listed directive(s) and their modification directive(s):

- 89/336/EWG EMC directive (electromagnetic compatibility)
- 94/9/EG Ex directive (ATEX)
- 73/23/EWG Low voltage directive (LVD)
- 98/37/EG Machinery directive

In the assessment of conformity, the following relevant standards have been consulted:

DIN EN 60950-1/A11:2004	EN 55022, Class B	EN 61000-3-2
EN 61000-3-3	EN 61000-4-2	EN 61000-4-3
EN 61000-4-4	EN 61000-4-5	EN 61000-4-6, EN 61000-4-11

Additional documents or information (e. g., test reports, etc.), which have been consulted as basis of the conformity assessment:

Conformity with the provisions of the EMC directive has been certified by

Competent body: _____
Certificate: _____
(No., date, supplement)

Conformity with the provisions of the Ex directive has been certified by

Notified body: _____
Address: _____
Certificate: _____
(No., date, supplement)

The last two digits of the year in which the CE mark was applied: 06

(only to be entered on declaration of the low voltage directive 72/23/EWG)

- This declaration also applies for the products listed in the "Variants" appendix. (If marked with a cross)

Blomberg, August 14, 2006

Heinz Reibke
BU ICT
Head of Technology Department

Dirk Görlitzer
Vice President - Head of
Business Unit Connection Technology

This declaration certifies conformity with the indicated directive(s), it does not, however, provide any guarantee as to characteristics. The safety notes and installation instructions in the enclosed product documentation must be observed.

FB A-7-0037 / -02-	Form creation date: July 22, 2003	Form author: Automation Department
--------------------	-----------------------------------	------------------------------------