Rowe 3600

Operating Manual

Operating Manual

Introduction

The Plotter **Rowe 3600** is state of the art and has been designed and built in accordance with recognized technical norms. Its use can nevertheless represent a hazard to health or to material assets. The plotting system may only be used when it is in perfect technical working order, for the purpose for which it is intended, in a safety and hazard-conscious manner, and in compliance with the instructions given in the operating manual. Any faults which impair the safety of the plotter must be rectified at once.
The plotting system must only be used for the functions described in the operating manual.
Any other use above and beyond that described in the operating manual is deemed improper use. The manufacturer accepts no liability whatsoever for any damage caused by improper use. The user will be held solely responsible for such risks.
The plotting system will be used by different groups of people. As such, the operating manual has been divided up into individual manuals, each containing specific information for the appropriate group. Everyone involved in the installation, start-up, operation, and maintenance of the equipment must be duly qualified and trained.
For **your safety,** it is important that you strictly follow the instructions given in this operating manual**.**

Safety Manual	The safety manual is of overriding importance and everyone who uses or operates this plotter must read it. The safety instructions contained therein must be complied with. The safety handbook contains all safety data sheets, safety information, CE-certifications, product specifications
Operating Manual	The operator is in charge of the plotter for all daily work. He is responsible for the settings which can only be undertaken on the plotter and on the console. He determines, e.g., the modes of operation, such as Plot, Standby, Switch-Off, Service Scheduling, Manual Sheet Feed. Moreover, he is also responsible for ensuring that there are always enough media, such as toner and plotting material available.

User Manual	The user is a PC workstation and is part of a network group which has been given access to the plotter. The user has printer drivers installed which allow it to print directly from appropriate applications such as MS-OFFICE, AUTOCAD, etc. The user also has client software which allows it to compile so-called plot files from archives and transmit these to the plotter as a block.
Administrator Manual	The administrator incorporates the plotter into the company‘s network and supports the user in the installation of the plot client and the printer drivers. He has unrestricted right of access to the plotter PC and assigns access rights to the individual users.
Service Manual	The service technician is trained byRoth and Weber and is responsible for initial installation and routine, scheduled maintenance of the plotter.
Warnings Symbols	*The following terms and symbols are used throughout the operating manuals to indicate particularly important information.*
Notes Important i	*Special information relating to the economic use of the plotting system*
Caution !	*Special information about do‘s and dont‘s to prevent damage.*

Table of Contents

Product Features

Configuration	The plotter is available with 2 or 4 rolls of paper (two rolls in one compartment) and can be upgraded from 2 to 4 rolls at any time. Individual sheets can be fed into the plotting system via the manual sheet feeder. The plotter works at an output speed of 5m/min and is equipped with an LED plotting head with a resolution of 400 dpi.
Installation	Installation and initial start-up of the plotting system must be done by a qualified service technician. To ensure trouble-free installation, please read the appropriate information given in the safety manual.
Control Panel	The plotter is equipped with a control panel for setting the roll configuration, and for setting service-based plotter parameters. In addition, important messages about the plotter‘s status and error messages are displayed here.
Controller	The controller for the plotter is based on a Windows NT kernel. The processor and operating system components are installed in the plotter. Windows NT4 is used as the operating system at present. Functional units of the following software modules run on the kernel: Interface control, plotting job management, plot processing, and graphics format conversion. The integrated PC has all resources provided under Window NT available. A part of the system memory is reserved for image storage.

Product Features

Interfaces

The (hardware) interfaces for receiving a plotting job are:
· TCP/IP network
· Windows network
· Listener port (network-connected disks)
All interfaces use Windows NT selection capabilities.

Port Monitor

The plotting job data are received via a network interface. A monitor at this interface provides decoupling of the system-conditional interdependencies. The jobs of the port monitor are:

· Control of the local and network interface
· Analysis of the incoming data
  · Plotting jobs (job and plot data)
  · Configuration jobs (pen assignment, conversion options)
  · Administration jobs (repetition, cancelling of a job, rebooting)
  · Polling jobs
· Generation of the plotting jobs at the spooler
· Provision of status information

Network Integration

The plotter must be connected to the computer environment via a LAN interface and supports all common network protocols via the Windows NT operating system. The plotter can thus be used in various network environments
e.g. TCP/IP, NetBEUI, and Novell.

Product Features

Plot File Spooler

The plotting jobs from the port monitors or the listener are tranferred to the spooler. The spooler then undertakes the following jobs:

- Management of the plotting jobs
  Processing is done on a FIFO (first in first out) basis, but internal overtaking is possible. This is of advantage, when jobs which require a lot of processing do not lead to an output, e.g. because they take up too much runtime for conversion purposes.
- Control of the format converter
  The spooler ensures that the format converter is started with the correct options. The most suitable conversion is taken from the plotting job data.
- Block processing
  The spooler puts together groups of plot files (block, set) and guarantees that these are processed as a group and are output together. No other job may intervene in a running block whilst the latter is being output.
- Activation of the print server
  The print server represents the communication to the output interface. The spooler guarantees that the plot data parameters are in the right order and the print server activates the PCI readout card.
- Processing of status messages and fault analysis
  The spooler reacts to status messages from the machine controller. These may make it necessary to interrupt a job. Depending on the machine status, this can also lead to another job being completed first, e.g. if there is a malfunction at the folder and a job in the spooler is to be output without folding.

Product Features

- Provision of processing statuses
  The individual plotting jobs processed in the spooler are normally at different stages of processing. This can affect the progress of the conversion or of the output, as can faults or other reactions to resource bottlenecks.
- Provision of account data
- supports external cost acquisition
- Repetition and cancelling of the current plotting job

Formatkonverter gralXconvert

The controller supports numerous different input formats. The input formats must be converted into an internal matrix data format. The format converter gralXconvert is used for this purpose. The format converter is activated by the spooler. The format converter performs the following job:

- Converts plot data into an internal matrix-type intermediate format
  Input plot data formats are
  - Calcomp 906 / 907
  - Calcomp HCBS
  - HP-GL, HP-GL/2, HP-RTL
  - TIFF
  - CALS types 1 and 2
  - CGM
  - PostScript, PDF (optional)

Additional functions are performed during the conversion operation

- Scaling (fitting to size)
- Rotation
- Pen assignments
- Labelling / stamping
- Edge adjustment

Product Features

Printer Drivers

The plotter is standardly equipped with the previously mentioned converters. This allows a number of different printer drivers to be used, e.g. HP, Calcomp, PostScript (optional). The drivers are either installed locally and are connected to the port monitor of the plotter via LPR ports using tcp/ip, or are installed as the network printer of the plotter computer.
The plotter is adressable just like any other printer in the NT network.
In UNIX, the printer is installed as a remote printer and is addressed by LP command via the TCP/IP print services. More information about this is given in the Administrator Manual.
All enabled users in the network can thus access the plotter directly from their standard OFFICE, CAD etc. applications and can print their files using the settings of the printer driver.

ORDER File

The plotter can be addressed from existing archives by means of an individually programmable ORD file via the network and can receive record-related jobs.
Please refer to the Administrator Manual for more information.

Supplementary Equipment

Depending on your requirements, the plotter can be adapted with suitable, optional output equipment. Please refer to the appropriate operating manuals for detailed technical information.

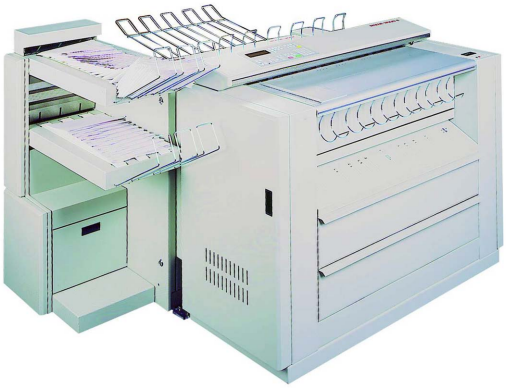
Output Tray

The plotter is standardly equipped with an output tray. This tray has limited stacking capability. Outgoing plots should be removed from this tray as soon as possible. The tray capacity is limited to a max. of approx. 100 DIN A0 plots.

Plot Stacker Table

Next to the folding machine, the best method for outputting plots is on a plot stacker table. It guarantees automatic take-over and accurate stacking of all formats, from DIN A4 to DINA0.
The weight of the paper causes the table level to drop automatically, so it is always positioned correctly at the plot output slot. A daily volume of approx. 500 plots can be output here without problem.

Folding Machine



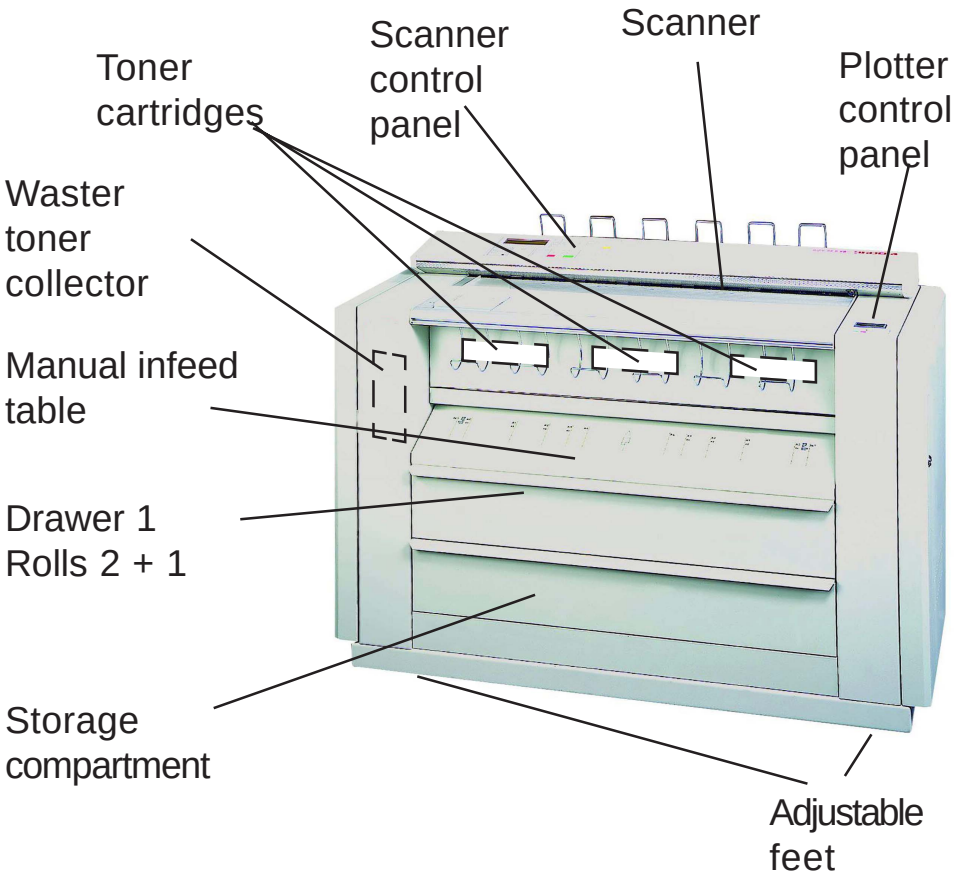
With the folding machine, all plots are deposited in a tray, folded in the required manner and in the correct order. If sorting is also required, the folding machine can be equipped with up to three output tiers. The online folding machine is controlled via the plotter controller (including the output tiers).
For more information, please refer to the operating manual for the folding machine.

Rowe 3600-2

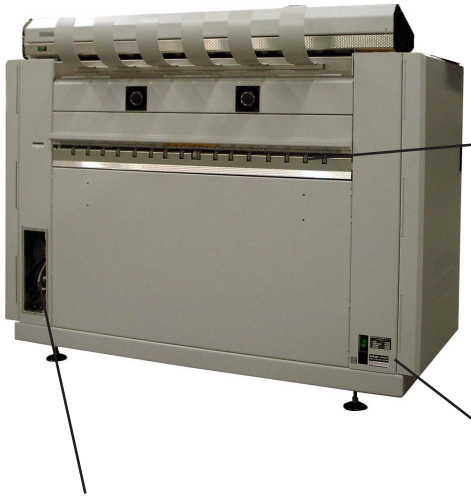
Plotter with One Drawer (2 rolls of paper)

Plotter Overview

Front View



Back View

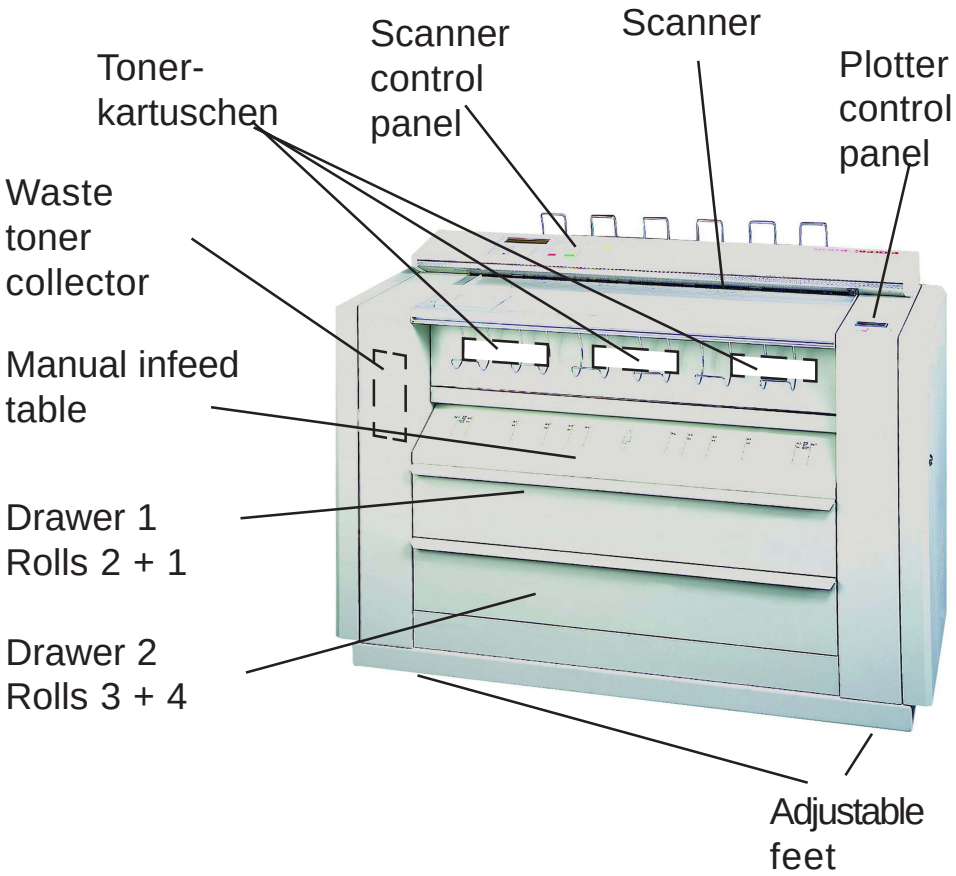


Rowe 3600-4

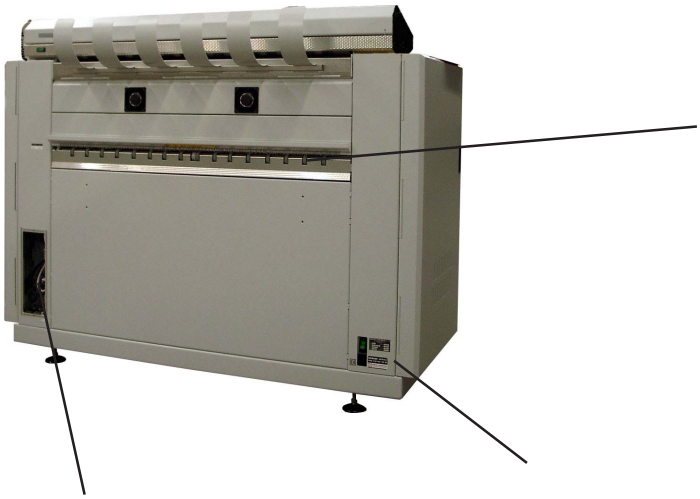
Plotter with Two Drawers (4 rolls of paper)

Plotter Overview

Front View



Back View



Ports for network, screen,
keyboard, mouse, and folding machine
connection

Operation

The control panel is located on the right of the top cover of the plotter and consists of

a 4-line LCD display,
8 control keys, and
4 LED pilot lamps.

LCD Display

The LCD display is used to display and to edit all plotter settings.

Display of all Operating Statuses
The current plot file data (width x length) are displayed whilst plotting is in progress
e.g. Wait for plot, Warm up, Power down, Job data.

Display of Warnings
The plotter continues to work, but with reduced quality and resources in some cases
e.g. Toner warning, Roll 1 empty, Maintenance.

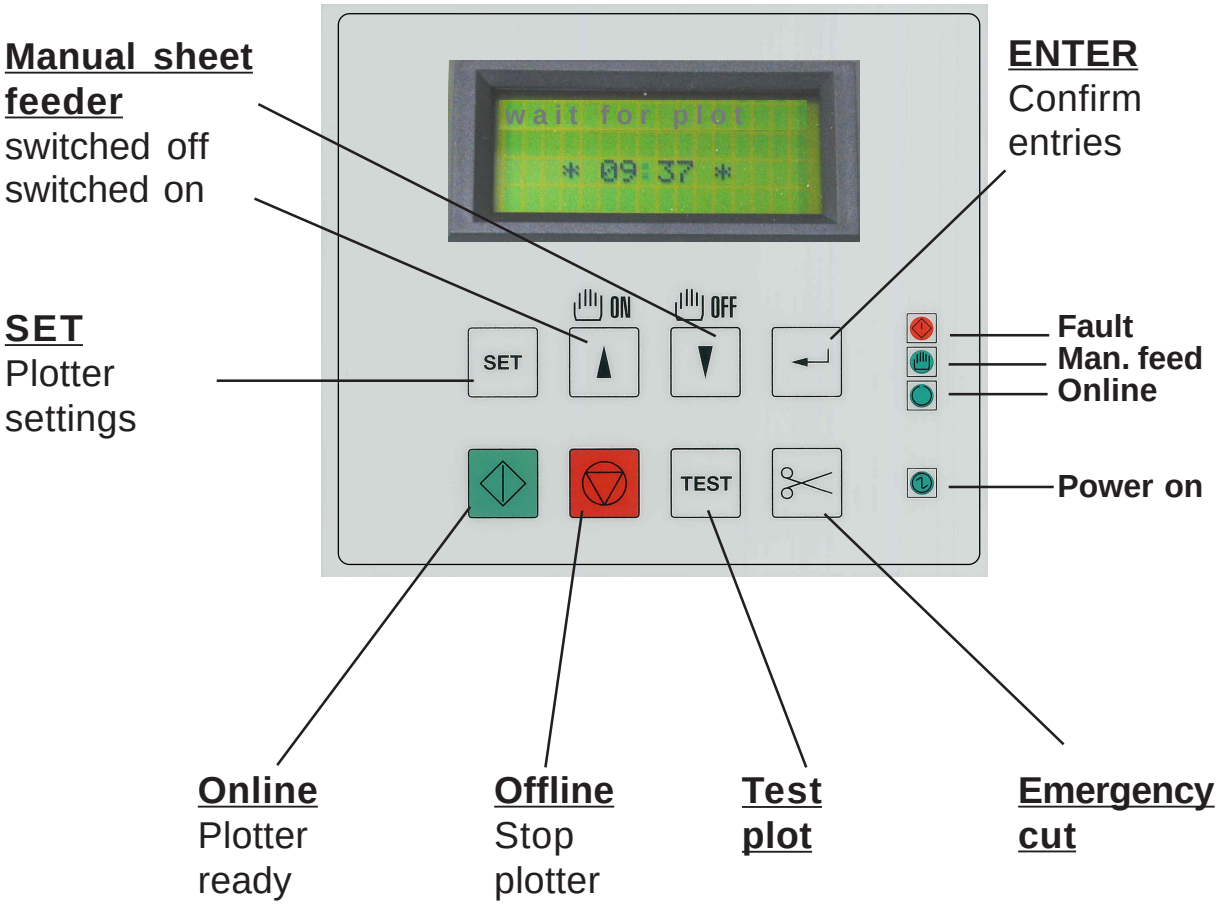
Display of Faults
The plotter switches to offline mode and waits until the fault has been rectified
e.g. Cover open, Toner empty, Drawer open, Jam cutter.

Display of Consumption Data
You can call in the consumption data by pressing the SET key.

Display and Setting of all Machine Data
The roll status can be displayed and changed by pressing the SET key.

Display and Setting of all Service Data
(access to this area is protected by password)
Service settings can be called up and changed by pressing the SET key

LCD Display



Control keys

8 control keys are provided for calling in certain menues, inputting the machine data, consumption data, default data (rolls, etc.).

Pilot lamps

4 pilot lamps indicate the most important machine statuses directly:

- Power on,
- Fault, etc.
- Manual sheet feed
- Online

Note

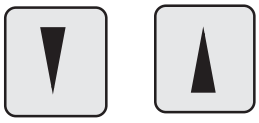
The display language and the number of parameters displayed can be edited in a text file.
For more information please refer to the Service Manual.

Description of the Menu Structure

When you press the SET key, the display on the control panel switches over from operating mode into administration mode.

A menu is assigned to each line of the display. To move down to the next display line, press the SET key again. To exit administration mode, press the SET key in the bottom line of the display (lowest menu level).

In administration mode, the menu structure which was last displayed and the current plotter configuration data are displayed.



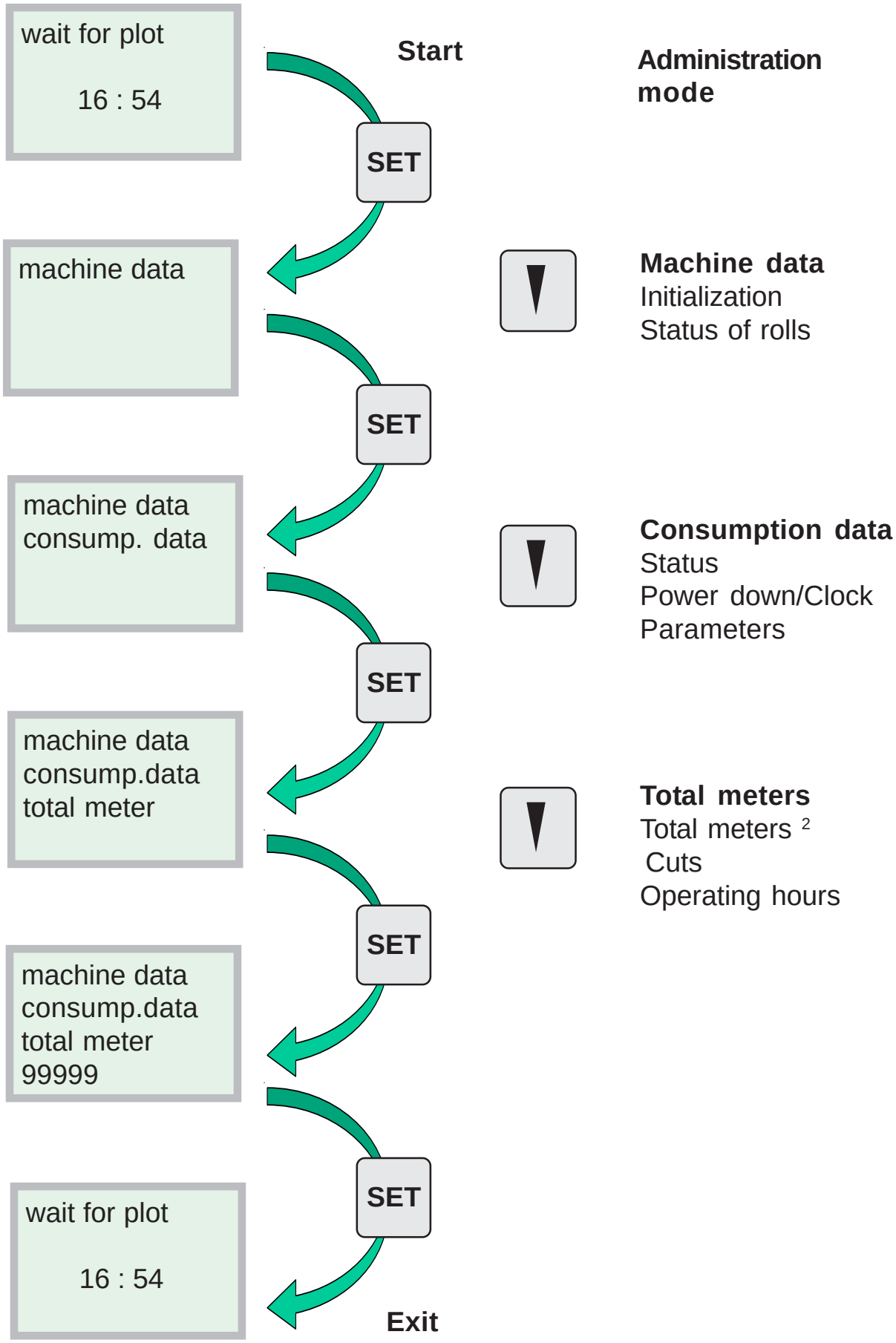
In each line, use the arrow keys to navigate through the menu assigned to the display line in question.
Which key you use is not important. The list is either displayed from top to bottom or vice-versa.

Important

Administration mode is disabled whilst the plotter is processing a plotting job.

Conversely, the plotter will not perform any jobs whilst administration mode is active.

Beschreibung der Menüstruktur



Control Keys

Bottom Row

These keys are used in the main to initiate and perform the following operations:

Online

Press the green Online key to switch the plotter to **"READY"** status (online mode). The rolls of paper move into position in front of the cutter one after the other. The plotter is then ready for operation and waits for plotting jobs. The paper drawers are locked to prevent them from being opened accidentally.

Offline

Press the red Offline key to switch the plotter to **"NOT READY"** status (offline mode). This will not interrupt any printing operation which is already in progress; that job will be completed first. All new jobs will be set to "Wait" status.

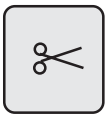
Caution

The message "system shutdown?" appears in the display. If you confirm this message by pressing the ENTER key, the plotter will be switched off. Refer to pages 20-21.

Test plot

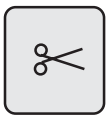
Press the Test key whilst the plotter is ready for operation to print a **test plot**.
Remember to press the Online key first.

Emergency cut



Press the CUT key to perform an **emergency cut**.
Important: *If you press the Cut key for longer than 3 seconds, another cut will be performed. This will trigger a hardware **Reset**, which is comparable with switching on (rebooting) the plotter again.This can be used to correct an error in the controller.*

RESET



> 3 sec

Control Keys

Top Row

These keys are used in the main to initiate and perform the following operations:

Plotter configuration

Press the SET key to activate administration mode, in order to edit **plotter configurations** (e.g. roll / paper assignment), to call up consumption data, or to set the relevant machine parameters in service mode.

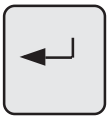
Man. feed ON

Press this key to switch the plotter to **Manual Sheet Feed** mode
(individual sheet feed).
The message "manual" appears in the display

Man. feed OFF

Press this key to swtich the plotter from manual sheet feed to **autom. roll feed.**
The message "manual" disappears.

ENTER



Press the ENTER key to confirm messages from the plotter displayed in the bottom line of the display.
e.g. system shutdown?

Switching On The Plotter

```
warm up
system started
=>
```

Switch on the plotter at the main power switch at the back of the unit. The bottom LED indicator in the display lights up.

```
warm up
system started
=>=>=>
```

The system starts up, the plotter PC boots up. The plotter switches to "warm up" status.

After a minute, the machine performs an initialization sequence and then automatically switches into **Online Mode,** provided that there are no faults:
e.g. drawer or cover open.

```
warm up

=>=>=>=>=>
```

After the system start phase has been completed, the machine parameters are transmitted to the controller.
The message "system started"“ disappears.

```
wait for plot

   16 : 54
```

After the warm-up phase has elapsed, the plotter is ready for operation. If any faults occur, or if any resources are missing (e.g. roll of paper has not been inserted), an appropriate message is given in the second line of the display.

```
offline


system shutdown
```

Switch-on **without auto- online procedure** takes place in a similar manner. The plotter, however, remains in Offline Mode and does not execute any plotting jobs.
Online Mode must then be set manually, by pressing the “online“ key.

Switching Off The Plotter

wait for plott

16 : 54

Only switch off the plotter in Offline Mode.

Press the Offline key to switch the plotter into Offline Mode. The rolls of paper are rewound and plotter will not accept any more plotting jobs.

offline

system shutdown

The message "system shutdown?" appears in the bottom line of the control panel.

Press the ENTER key to confirm this message. The plotter is then logged off from your PC network.
This can take up to 1.5 minutes.

****

The log-off time has expired when the first line of the display is filled.

switch off
the plotter
now !

If the logging-off process has been successful, the display tells you to switch off the plotter.
The Off-switch is located at back of the plotter, on the left hand side.

Caution:

Switching off the plotter without logging off first could result in a loss of data and errors in the operating system.

Important :

After switching off the plotter, wait approx. 5 sec. before you switch it back on again.

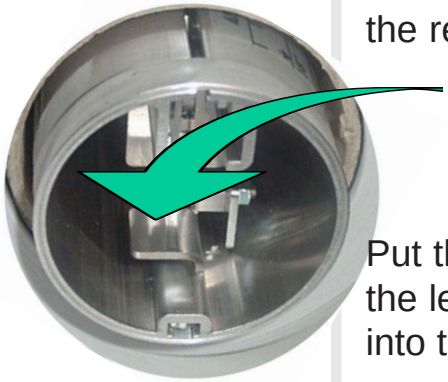
Inserting / Changing The Rolls of Paper

size not loaded
roll 3 empty
paper
ISO A0 (841)

The message "roll 3 empty" appears in the display. If the plotting job cannot be output on another available roll of paper, an additional message about the missing resource also appears. Any remaining paper from the empty paper roll is automatically returned to the drawer.

Press the **Offline key** to set the printer into the "not ready" state. The plotting job which is currently in progress is completed first. After the paper has been returned to the drawer, the drawers are unlocked.
Fully open the drawer.

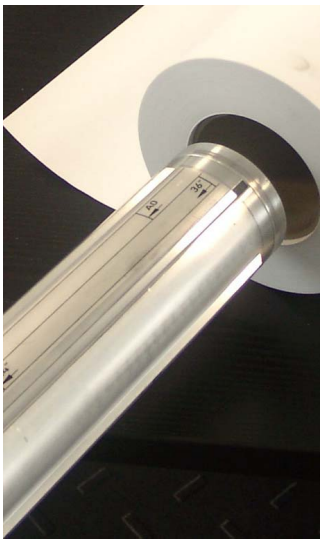
Pick up the roll holder tube at the left and right ends and take the roll holder out of the drawer. Remove the remaining paper from the drawer.



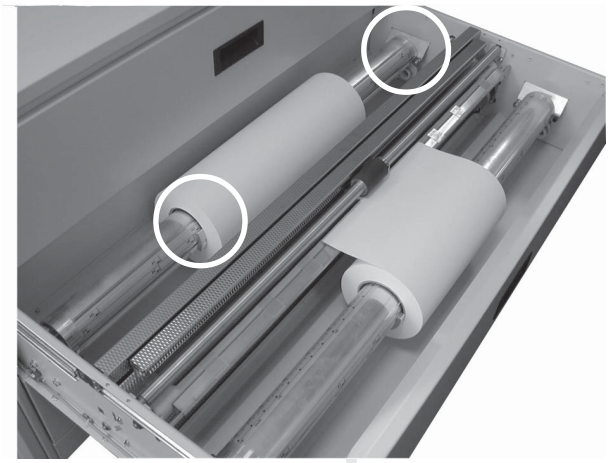
Press the lever inside the tube and pull the roll holder out of the cardboard core.

Put the new roll of paper down on a table. Press the lever inside the tube and push the roll holder into the new roll of paper, as shown.

wrong



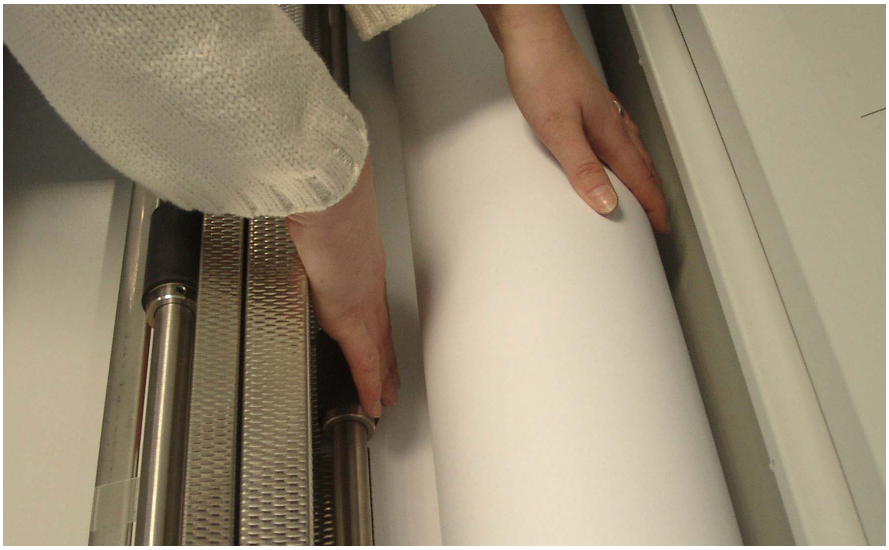
right



Using both hands, take hold of the left and right ends of the tube, and place the roll holder with the roll of paper into the roll compartment.

Make sure that the roll holder lies between collar of the transport rollers.

Each roll holder is equipped with an adjustable limit stop. Adjust this limit stop so that the left edge of the paper is in alignment with the plot document.



Turn the roll of paper in feed direction by hand until the starting edge of the paper butts up against the transport roller.

Now turn the top pressure roller until the starting edge of the paper is held securely.

Setting the Material Type

The plotter does not automatically determine the type of material loaded nor its width. Therefore the type of material / paper assigned to a particular roll must be set after a roll has been inserted. Based on the selected material type, the plot manager automatically activates the appropriate roll of material / paper.
Incorrect roll material assignment will inevitably lead to incorrect plotting results.

Press the Offline key.
Printing is interrupted. All rolls of paper are retracted and the drawers are unlocked.

SET

Press the SET key.
The display switches over to administration mode.

status rolls

Press the arrow keys several times to select the menu item
- **status rolls** - machine data - initialization

SET

Press the SET key.

status rolls
roll 1

Press the arrow keys several times to select the **roll** for which you want to set the type of material/paper,
- **roll1** - roll 2 - roll 3 - roll 4 .....

SET

Press the SET key.

status rolls
roll 1
media

Press the arrow keys several times to select the menu item
- **media** - width

SET

Press the SET key.

status rolls
roll 1
media
transparent

Press the arrow keys several times to select the **loaded material**
- paper - **transparent** - film - velum

Press the ENTER key.
The change is saved. The plotter is now set for the material assigned to the selected roll.

SET

Press the SET key.

offline

system shutdown

The display switches back to operating mode.

SET

To check whether the change has actually been accepted, press the SET key four times.

status rolls
roll 1
media
transparent

If the change has not been made, you probably forgot to press the ENTER key. In this case, repeat the procedure.

Press the Online key.

wait for plot

16 : 54

The printer switches back to Online mode, all rolls of paper are moved into their starting positions and the drawers are locked.

Setting the Material Width

The plotter does not automatically determine the type of material loaded, nor its width. Therefore, the width of the material assigned to the roll must be set after the roll has been inserted. Based on the width of the plot document, the plot manager automatically activates the correct roll.
Incorrect roll width assignment will naturally lead to incorrect plotting results, e.g. information will be missing or the margins will be too wide.

Press the Offline key.
Printing is interrupted. All rolls of paper are retracted and the drawers are unlocked.

SET

Press the SET key.
The display switches over to administration mode.

status rolls

Press the arrow keys several times to select the menu item
- **status rolls** - machine data -initialization

SET

Press the SET key.

status rolls
roll 1

Press the arrow keys several times to select the **roll** for which the material width is to be set
- **roll 1** - roll 2 - roll 3 -roll 4 .....

SET

Press the SET key.

status rolls
roll 1
width

Press the arrow keys several times to select the menu item
- media - **width**

SET

Press the SET key.

status rolls
roll 1
width
ANSI 24" 610mm

Press the arrow keys several times to select the **loaded width**

- ANSI 36" 914mm - ANSI 30" 762mm
- **ANSI 24" 610mm** - ..... mm

Press the ENTER key.
The change is saved. The plotter is now set for the width of the material on the selected roll.

To check that the width has been duly changed, press the SET key four times.

status rolls
roll 1
width
610mm

To set a user-defined width, select the entry displayed in the list for the nearest width in "mm".
Then press the ENTER key together with one of the arrow keys to set the actual desired width.

SET

Press the SET key.

offline

system shutdown

The display switches back to operating mode.

Press the Online key.

wait for plot

16 : 54

The printer switches back to Online mode, all rolls of paper are moved into their starting positions, and the drawers are locked.

Inserting the Toner Cartridge

toner warning

When the toner concentration gets low, the message "toner warning" appears in the display to begin with. A new toner cartridge should be inserted now, as the printing quality will get poorer, the more printing jobs are executed.

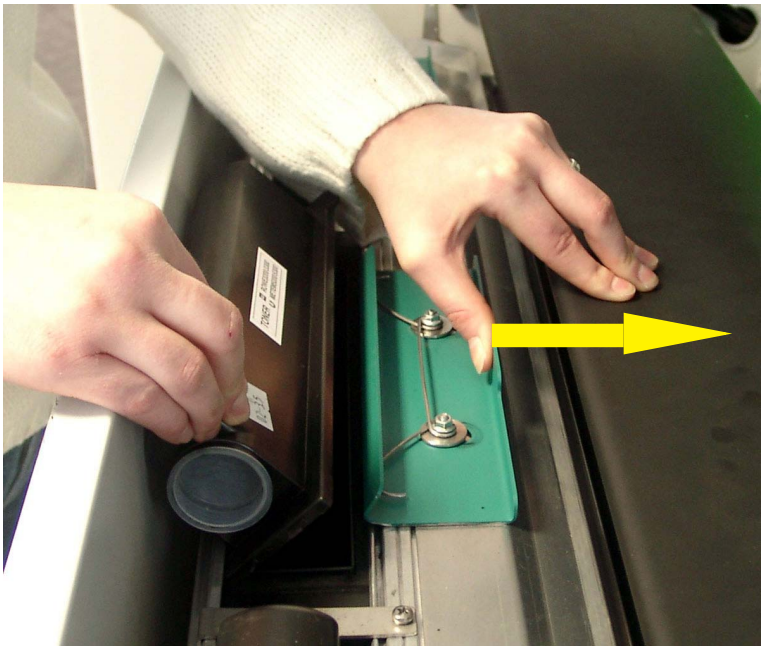
Caution:

The plotter will not accept any more printing jobs once the message "toner empty" appears in the display.

Important:

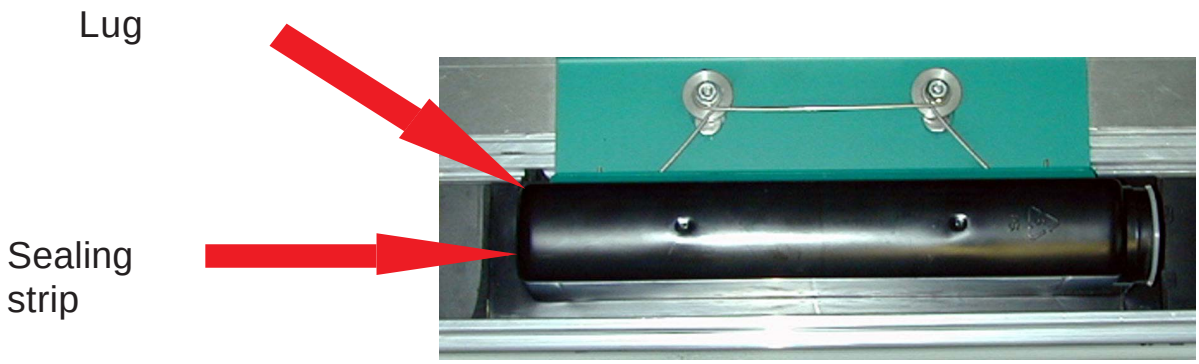
Always exchange all 3 cartridge.

Press the **Offline key** so that the plotter does not accept any more printing jobs.
Open the top cover.



Push back the catch and remove the three empty toner cartridges. For easier removal, tip the cartridges backwards a little.

Insert the three new toner cartridges such that the lug on the cartridge slots into the appropriate recess. When the cartridge is in the correct position, the sealing strip will be on the left hand side of the cartridge. Slightly tilt the cartridge and insert it into the front guide slot. Then push the cartridge down until the catch snaps into place.



Important: *Shake the cartridge before you insert to to properly mix the toner.*

Keeping hold of the toner cartridge, grab the sealing strip and pull it fully out.

The packaging of the three toner cartridges is also used as the waste toner collector. Therefore, do not throw it away. It is important to change the waste toner collector when you change the toner cartridges. The waste toner collector is located in the left hand side of the machine.

Open the clips and remove the collector from its holder. Seal the hole with the adhesive tape on the collector lid, to prevent waste toner from spilling out.
Insert the new collector into the holder by inserting the pipe of the waste toner duct into the hole provided.
Close all doors and covers.

Press the Online key to switch the plotter to **"READY" status.**

Switching On The Manual Sheet Feeder

The manual sheet feeder is used to insert custom sheets of paper by hand.
The paper format "manual" in the plotting job (setplot or scanner) tells the plotter that the job is to be executed from the manual sheet feeder.

When the plotting job is transmitted, the following appears in the display:

"size not loaded
manual".

size not loaded
manual

This tells the operator that he now has to activate the manual sheet feeder.

Press the "up" arrow key to switch the plotter to Manual Mode. The LED at the right of the keys also lights up.

job no.....
manual
transparent
ANSI 17" 432mm

Wait until the message about the pending plotting job, type of paper, and size of paper appears in the display.

Insert the required paper into the manual sheet feeder,
keeping it centered.
In manual mode, the plot is always output in the center, regardless of the paper width. The sheet of paper must therefore always be put into the manual sheet feeder centrically.

Align the edge of the paper at the format guide markings. Press lightly against the stationary infeed roller. The paper is then briefly aligned and is then immediately drawn in.

For each subsequent job, you will be asked to insert a new sheet of paper for the job number in question. If this is not done within 30 seconds, the plotting job will be cancelled.

no plot jobs
manual

The following message appears in the display when there are no more jobs for the manual sheet feeder:

"no plot jobs".

Press the "down" arrow key to switch the plotter back to automatic roll feed mode.

Paper quality

Only straight, non-curling sheets of paper, 80 - 110 gr. in weight may be inserted into the manual sheet feeder. If the sheet curls upwards too much, a paper jam will inevitably occur. Nor can a guarantee can be given for printing on the back side.

Important

In "MANUAL" mode, the plotter cannot accept any roll feed jobs. It is therefore important to switch back to Roll Feed mode.

Requesting A Test Plot

The "Testplot" function is available in several modes of operation. After changing a roll, you can use the function "roll assign. roll" to request a 600 mm test strip from the roll in question. The top layer of the roll of paper is then cut off at right angles and straight.
A test plot with image information can only be requested in Online mode.

Test Plot in Online Mode

Test

Press the "Test" key to request a test plot.

testplot demand

The message "testplot demand" appears in the display.

job no. .....
roll 2
paper
420 x 595

After the paper roll has been started, the job data are shown in the display.

Various image data are available for the test plot. How to change the test plots and how to set up a test plot from every plot file is explained in the Administrator Manual.

Test Cut in the Roll Selection Menu

SET

Press the SET key to switch to Administration mode.

status rolls

Select a roll using the "status rolls" function.

status rolls
roll1

Test

Press the TEST key to output a 600 mm long, blank strip of paper.

If the plotter is in Offline mode, it is switched to Online mode after the test plot has been completed.

Important
i

This plotting job is not generated by the plot manager. It therefore does not contain an appropriate job structure.
If the infeed shunt is open, the test plot will be fed into the folding machine.

Stopping the Plotter Without Emergency Cut

by pressing the Offline key

offline

system shutdown

Press the red Offline key to set the plotter to **"NOT READY".**

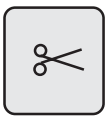
The plotter will not execute any more plotting jobs. The plotting job currently in progress will, however, be completed.
In Offline mode, new plotting jobs are processed up to the output stage. All pending jobs are labelled with the status "WAIT PRINT".

The rolls of paper are rewound back into their respective drawers. The drawers are unlocked so that the rolls of paper can be changed, if necessary. In Offline mode, the machine status is continually polled. If the plotter is offline, but is ready for operation (there are no faults, no lack of paper, a drawer is not open), it automatically switches to Online mode after one minute.

The service technician can deactivate this automatic online switching procedure by entering an appropriate parameter. The plotter can then only be switched to **READY** status by pressing the Online key.

Stopping the Plotter With Emergency Cut

by pressing the Cut key

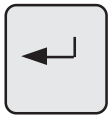


If the cut key is pressed whilst plotting is in progress, the current plot is cut off and the plotter automatically switches into Offline mode.

manual cut

delete job ?

At the same time, a message appears in the display which asks whether the current plotting job is to be cancelled.



Press the ENTER key to delete the plot file from the spooler directory. The plot is not repeated.

If the plotting job consists of a data block, not only is the current plot file deleted, but all files in that block are deleted too.

This function can only be used if too many or too long plot outputs have been generated by mistake.

Note

i

Cancellation of a plot immediately after starting the paper can lead to a paper jam. Therefore, only execute this command when the start of the plot can actually be seen in the plot output slot.

Power-Down (Power-Saving) Mode

Various power-down modes can be set on the control panel of the plotter. The mode to be set depends on the plotting volume and the desired availability of the plotter.
In the power-down phase, the fuser heater is switched off after a preset delay after the last plot has been completed. The fuser unit can then cool down to room temperature. A new plotting job ends the power-down phase and activates the warm-up phase. The plotting job is executed as soon as the required operating temperature has been reached.

Factory setting

Power-down mode 2 has been preset in the factory with a 5 minute delay. This means that outside of the core time (7 a.m. to 5 p.m.), the plotter switches to power-down mode five minutes after the last plotting job has been completed.

You can access the power-down menu in administration mode.

Press the Offline key

SET

Press the SET key to switch the display to administration mode.

machine data

Press the arrow keys several times to select the menu item
-**machine data**- initialization - roll assignment

SET

Press the SET key to get into the 2nd line of the menu.

machine data
power down

Press the arrow keys several times to select the menu item:
-**power down/ clock**- parameter - consumption data - - status

Setting the Mode

SET

Press the SET key to get into the 3rd line of the menu

machine data
power down /clk
power down mode

In the third line of the menu, press the arrow keys several times to select the menu item
- power down mode - delay time **-** active from - active until - clock(min.) - clock(hr.) - day -

SET

Set the **desired mode** in the 4th line of the menu by pressing the arrow keys
- 0 - 1 - 2 - 3 -

machine data
power down / clk
power down mode
0

Mode 0 Power-down is not active.

machine data
power down / clk
power down mode
1

Mode 1 Power-down is always active.

machine data
power down / clk
power down mode
2

Mode 2 Power-down is only active during the preset active times.

machine data
power down / clk
power down mode
3

Mode 3. See Mode 2. On the weekdays Monday through Friday, power-down mode is deactivated when the preset active time has elapsed. Unlike Mode 2, a plotting job is not required to start the warm-up phase in this mode.

↵

Press the ENTER key to confirm your selection.

Setting the Delay Time

This sets the period of time after which the plotter is to switch from normal power to power-down mode. You need only set this delay for modes 1 - 3.

Factory setting

A delay of 5 minutes has been preset in the factory. This means that the system automatically switches to power-down mode five minutes after completion of the last plotting job.

machine data
power down / clk
delay time

In the third line of the menu, press the arrow keys several times to select the menu item
- power down mode **- delay time -** active from - active until - clock(minute) - clock(hour) - clock (day) -

SET

Press the SET key to display the 4th line of the menu**.**

machine data
power down / clk
delay time
5

Press the arrow keys several times to set the desired delay in minutes.
Power-down mode will be activated if the plotter does not receive a new plotting job within the preset delay time.

Press the ENTER key to confirm your entry.

Setting the Core Time

With the core time, you set the time period for which power-down is to be activated. This need only be set in Modes 2 and 3.
Outside of the core time, the fuser heating is not reduced at all and the plotter is always immediately available.

Factory setting

A core time from 5 p.m. to 7 a.m. (17:00 - 7:00 h) has been preset in the factory, which means that the plotter ends power-down mode at 7 a.m. Unlike in Mode 3, in Mode 2 the power-down phase only ends when the first plotting job is initiated.

machine data
power down / clk
active from

In the 3rd line of the menu, press the arrow keys several times to select the menu item
- power down mode - delay time **- active from -** active until - clock(minute) - clock(hour) - clock(day) -

SET

Press the SET key to display the 4th menu line**.**

machine data
power down / clk
active from
17

Press the arrow keys several times to set the time at which you want the power-down phase to begin.

↵

Press the ENTER key to confirm your entry.

machine data
power down / clk
active until
7

Set the **- active until -** time in the same way.
In Mode 2, the power-down phase is only ended when a plotting job is initiated.

Setting the Day

Some functions, such as the power-down function, are controlled by weekday and time. It is therefore important that up-to-date data are entered. For safety's sake, the data should be checked at regular intervals.
By setting the day, you ensure that the plotter is not inadvertantly switched on on Saturdaays and Sundays.

machine data
power down / clk
clock (day)

In the 3rd line of the menu, press the arrow keys several times to select the menu item
- power down mode - delay time - active from - active until - clock(minute) - clock(hour)
- clock (day) -

machine data
power down / clk
clock (day)
1

In the 4th line of the menu, press the arrow keys to set today's day, whereby Monday is classed as the first day of the week.

Setting the Time

Example

12 30

machine data
power down / clk
clock (hour)

In the 3rd line of the menu, press the arrow keys several times to select the menu item
- power down mode - delay time - active from - active until - clock(minute) - **clock(hour)** - clock (day) -

machine data
power down / clk
clock (hour)
12

In the 4th line of the menu, press the arrow keys to set the present hour.

machine data
power down / clk
clock (minute)

In the 3rd line of the menu, press the arrow keys several times to select the menu item
- power down mode - delay time - active from - active until - **clock(minute)** - clock(hour) - clock (day) -

machine data
power down / clk
clock (min.)
30

In the 4th menu line, press the arrow keys to set the minutes.

Caution:

There is no automatic feature for switching from summertime to wintertime at present. you must therefore reset the time accordingly, as described above.

Calling Up Consumption Data

Press the Offline key.

SET

Press the SET key to switch the display to Administration mode.

machine data

Press the arrow keys several times to select the menu item
- roll assignment - **machine data** - initialization

SET

Press the SET key to get into the 2nd line of the menu.

machine data
consump. data

Press the arrow keys several times to select the menu item
- **consump. data** - status - power down/clk - parameter

machine data
consump. data
total meter

In the 3rd line of the menu, press the arrow keys several times to select the menu item
- total meter - square meter - cuts
- operating hours -

The 4th line of the menu shows the consumption in running meters.

machine data
consump. data
square meter
1000

In the 3rd line of the menu, press the arrow keys several times to select the menu item
- total meter - **square meter** -cuts -
operating hours -

The 4th menu line shows the consumption in square meters.

machine data
consump. data
cuts
100

In the 3rd line of the menu, press the arrow keys several times to select the menu item
- total meter - square meter - **cuts**
- operating hours -

The 4th line of the menu shows the total number of cuts which have been made.

machine data
consump. data
operating hours
50

In the 3rd line of the menu, press the arrow keys several times to select the menu item
- total meter - square meter -cuts
- operating hours -

The 4th line of the menu shows the total operating hours.

Note:

i

The counters cannot be reset.
If the machine controller is exchanged, these data will be lost. Therefore, make sure that you note down the values first.

Malfunctions and Messages

Malfunctions of a more or less serious nature can occur on the plotter and are dealt with by the plotter accordingly.
There are three types of message: status messages, warnings, and error messages.
If several messages are pending at a time, they are continuously displayed, one after the other.

wait for plot 16 : 54	**Status messages**	The current plotter status is displayed, e.g. wait for plot.
toner warning	**Warnings**	Printing is not stopped. The quality of the print may however be impaired. Failure to heed the warning will inevitably lead to an error message sooner or later.
jam cutter	**Error messages**	Printing is stopped immediately. An appropriate, plain-text error message appears in the display.

Status messages	wait for plot switch off the plotter now! no plotjobs man. feed manual cut testplot demand offline power down / clk system started warm up
Warnings	service due size not loaded toner warning print error roll 1 empty roll 2 empty roll 3 empty roll 4 empty roll 5 empty roll 6 empty
Error messages	RS 232 - ERROR jam drawer jam cutter jam drum jam fuser unit jam paper exit drawer 1 open drawer 2 open drawer 3 open cover open toner box open toner empty fus. temp. high fus.temp. low temp. sensor err. dongle not found

Status Message

warm up

>>>>>
system started

This message appears every time the system is started. The message "system started" relates to the boot-up of the workstation and disappears as soon as communication between the PC and the machine controller has been established (which takes approx. 2 - 3 minutes).

Important:

i

If this message does not disappear in the course of the warm-up phase, it means that the PC's operating system has not booted up.

Possible causes

There is no power to the plotter PC. Check the start-up procedure by connecting a screen.

offline

system shutdown

The plotter is in Offline mode.
Plotting jobs will be accepted, but are not executed.

Important:

i

The Windows NT operating system can only be shut down in this mode of operation.

switch off the plotter now!

The plotter's operating system has been shut down, the plotter is no longer in operation and can be switched off at the main switch.

Important:

i

Once the operating system has been shut down, the plotter must be switched off before it can be put back into operation again.

online
power down

The plotter has switched to power-down mode. Refer to the information given from page 36 on. A new plotting job cancels power-down mode.

Important:

Power-down mode can only be cancelled with the plotter is online.

roll 1 empty

Paper roll 1 is empty. Plotting jobs for other available rolls of paper will be executed. Depending on what has been set in the case of paper shortages, the plots will be output on the next bigger roll of paper.

Important:

Plotting jobs intended for an empty roll will lead to a resource error.

wait for plot
man. feed
no plot jobs

Manual sheet feed has been activated.
The word "manual" indicates the mode of operation. If there are manual plot jobs to be done, the bottom two lines tell you what format to insert (length, width, medium). Otherwise the message "no plotjobs" appears.

Important:

Plotting jobs which are to be output on the rolls of paper are not executed in manual mode.

Warnings

Service Date and Toner Warning

service date

The message "service date" indicates that the plotter is due to be serviced by qualified personnel. Please contact the Service Department.
If the plotter is not serviced within the next 500 running meters after this message has been issued, the User will be held solely liable for any subsequent damage which may occur as a result.

Important:
i

The service message may only be cancelled by the service technician after he has completed the required service.

size not loaded

delete job ?

The message "size not loaded" is displayed when a plotting job is pending, but a suitable roll of material is not available (width, medium). A roll with the required paper format must be put into the drawer, or the plot job must be deleted by pressing the ENTER key.

Important:
i

Deletion of a plotting job with the ENTER key is irrevocable, and the job cannot be retrieved.

toner warning

The toner concentration has dropped considerably because the toner cartridges are empty. The plot can still be output, but with reduced contrast.

Important:
i

New toner cartridges should be inserted without delay, because if the concentration continues to drop, an error message/ stoppage of the plotter will ensue.

Print Error

print error

This message appears if a print job cannot be executed due to an external error. These external errors are caused by supplementary equipment, e.g. folding machines, stacking boxes.

All plotter errors are shown in plaintext on the display. The message "print error" indicates that an external unit (e.g. the folding machine) has failed and the reason for the failure is shown on the display of the unit in question.

1. An error is displayed at the folding machine:

   Switch off the folding machine and rectify the displayed fault there.

2. No error is displayed at the folding machine:

   Switch off the folding machine and start a new job. If that job is executed without the issuance of an error message, it means that there is an internal problem at the folding machine.

Check whether the interface cable between the folding machine and the plotter is plugged in properly.

Error Messages

RS 232-Error and Its Rectification

RS 232 - Error

RS 232 is the communications interface between the plotter hardware and the PC. If , after booting up, the plotter PC does not react to messages from the plotter, the display will indicate an RS 232 - Error.
This error may have been caused by a Windows NT operating system crash.

Important:
i

The plotter must be switched off at the main switch.

warm up

>>>>>>>
system started

Switch the plotter back on. Whilst the system boots up, the message "system started" appears in the display.

offline

system shutdown

After the system has booted up, the message disappears. This indicates that communication is now taking place again between the PC and the machine.

Do not switch the plotter online.
Improper switch-off of the PC has caused the automatic online procedure (if set) to be deactivated.
The system crash may have been caused by a bad plot file in the system memory. The online procedure would try to re-plot this bad file and the system could then crash again.

The plotter must be re-initialized with the "Reboot" function.

Re-Initialilzing The Plotter

SET

Press the SET key.
The display switches to Administration mode.

initializing
reboot

Press the arrow keys several times to select the menu item
- **initialization** - machine data - roll assignment

SET

Press the SET key.

Press the arrow keys several times to select the menu item
- **reboot** - reset -

Press the ENTER key to confirm your selection.

The REBOOT command resets (warm start) the plotter. All running activities are cancelled, all plotting jobs are deleted, and the plotter is re-started.

Error Messages

Dongle Not Found and Covers Open

dongle not found

The consumption counters are protected by an internal hardware safeguard (dongle). If an unauthorized attempt is made to remove the hardware counters, the error message "dongle not found" appears in the display. The plotter is not ready for operation.

If this error message appears even though there has been no attempt at manipulation, it means that the hardware counters are faulty. This fault can only be rectified by the Technical Customer Service Department.

cover open

The message "cover open" is a general error message and appears if any of the following covers is not closed:
left and right doors, top cover, and output flap.

toner box open

The message "toner box open" only appears if all covers have been closed, but the toner box has not been pushed in properly.

If any of these covers are opened, all drives, heaters, and power will be switched off by the safety limit switches. This will lead to the cancellation of any plotting job currently in progress.

Drawers Open

drawer 1 open

drawer 2 open

To ensure that the rolls of paper can be changed quickly, access to the rolls of paper must be prevented whilst plotting is in progress. The drawers are held closed by electromagnets. Sensors monitor the correct position of each drawer.
The online procedure cannot be activated if one of the drawers is not closed properly. Instead, an error message indicating the status of the drawer in question is displayed.

The drawers are unlocked by pressing the Offline key.

Paper Jams and Their Rectification

The plotter has been designed in such a way that no paper jams will occur, provided that the curl of the paper is in order and the paper is fed in correctly. After the plot has been started, the paper feed is continuously monitored. If the start of the paper does not reach its intended destination within the calculated time, an appropriate jam message is displayed.
The plotting operation is stopped, and, depending on the location of the paper, an emergency cut is made. The paper is then transported back into the drawer with the "Offline" function.
If the remains of the paper are not removed after a paper jam, the plotter cannot be operated online. Instead, jam messages appear. These messages are explained in detail on the next pages.

jam cutter

jam drum

jam fuser unit

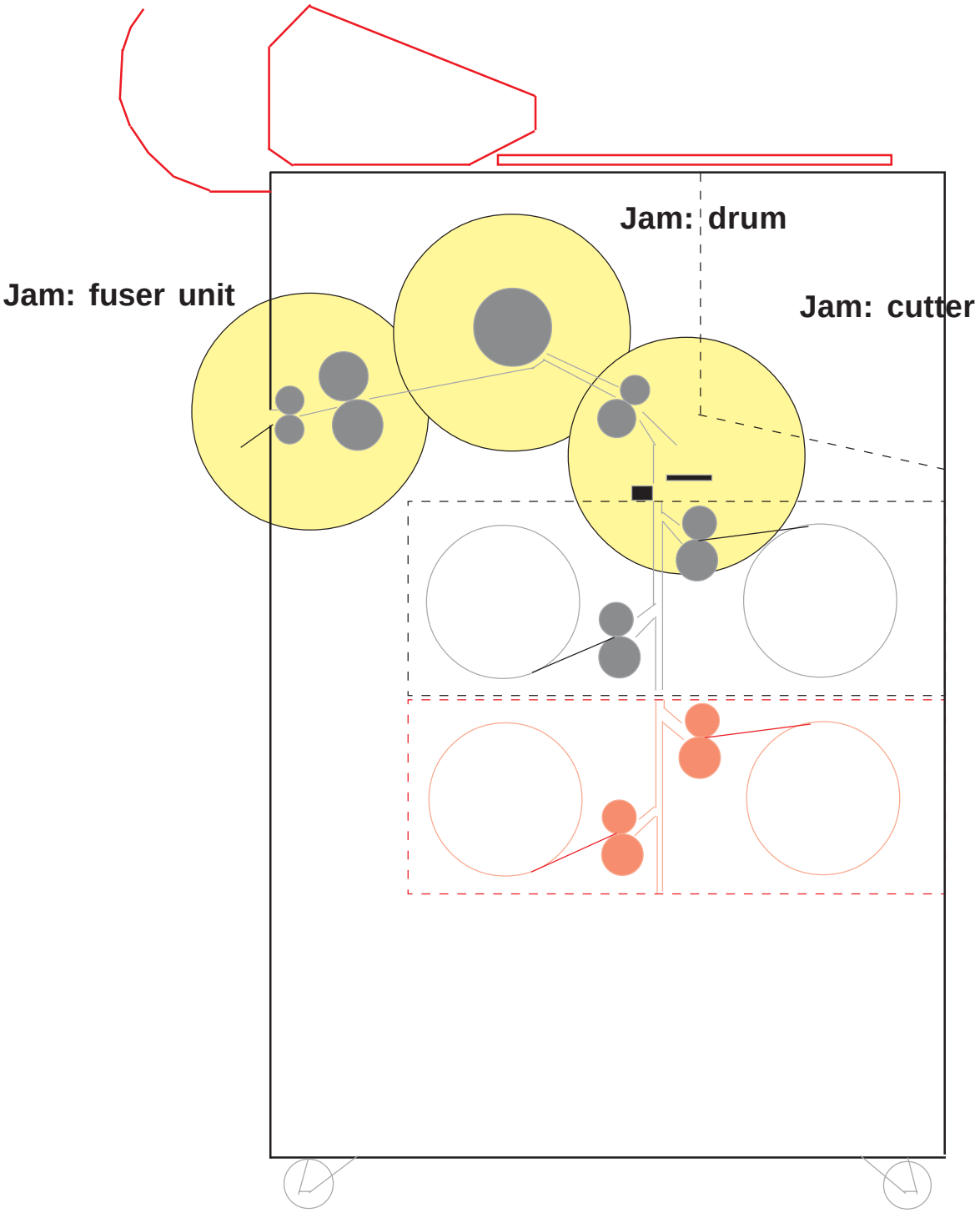
Paper jams occurring in the 3 most important functional areas of the plotter are displayed.
The monitoring system generally prevents any paper jams from occuring.
The plotter reacts automatically to jam messages by switching off the drives, initiating the emergency cut, retracting the paper.
However, any jammed remains of paper must be removed manually.

These can be pulled out of the plotter without removing the covers and guides at the paper infeed or paper output slots.

Note:
i

If possible, pull out any paper remains from the back of the plotter. That way, any loose toner particles on the paper will be fused and will not dirty the guide panels.

Jam Areas in the Plotter



Jam at Cutter

The message "jam cutter" always indicates that there is a problem within the cutter area or in the area leading up to the cutter.

jam cutter

Jam in the area leading up to the cutter:
After the plot has been started, the plotter waits for the starting edge of the paper to reach a sensor behind the cutter. If the paper does not reach this sensor, a jam has occurred somewhere between the roll drawer and the cutter.

A jam in this area often occurs because the front edge of the paper is spoiled (dog-ears, creases). Open the paper drawer and fully rewind the roll of paper. Due to the jam, the starting section of the paper may be badly crumpled and may have to be cut off manually. Carefully remove any paper remains and then feed the paper in again. Switch the plotter online.

jam cutter

Jam within the cutter:
If the paper has not been cut properly after completion of the plot, the error message "jam cutter" will be displayed.
All transport motors are stopped and the heater is switched off. The paper drawers are unlocked. The drawers cannot however be opened, because the paper hasn't been cut. The paper must be cut off manually.

To do this, open the manual infeed flap and the guide plate behind it. The length of paper is located behind this guide plate. Cut off the length of paper with a sharp knife and pull the visible end out of the machine.

Open the appropriate paper drawer and wind back the start of the paper.
Make sure that there are no remains of paper in the plotter and then close all covers. Check whether the "cut" function can be performed. You must be able to hear the cut being made.
If this function is executed properly, start the online procedure and then start a test plot.

If cutting does not occur, switch off the plotter and inform the Service Department.

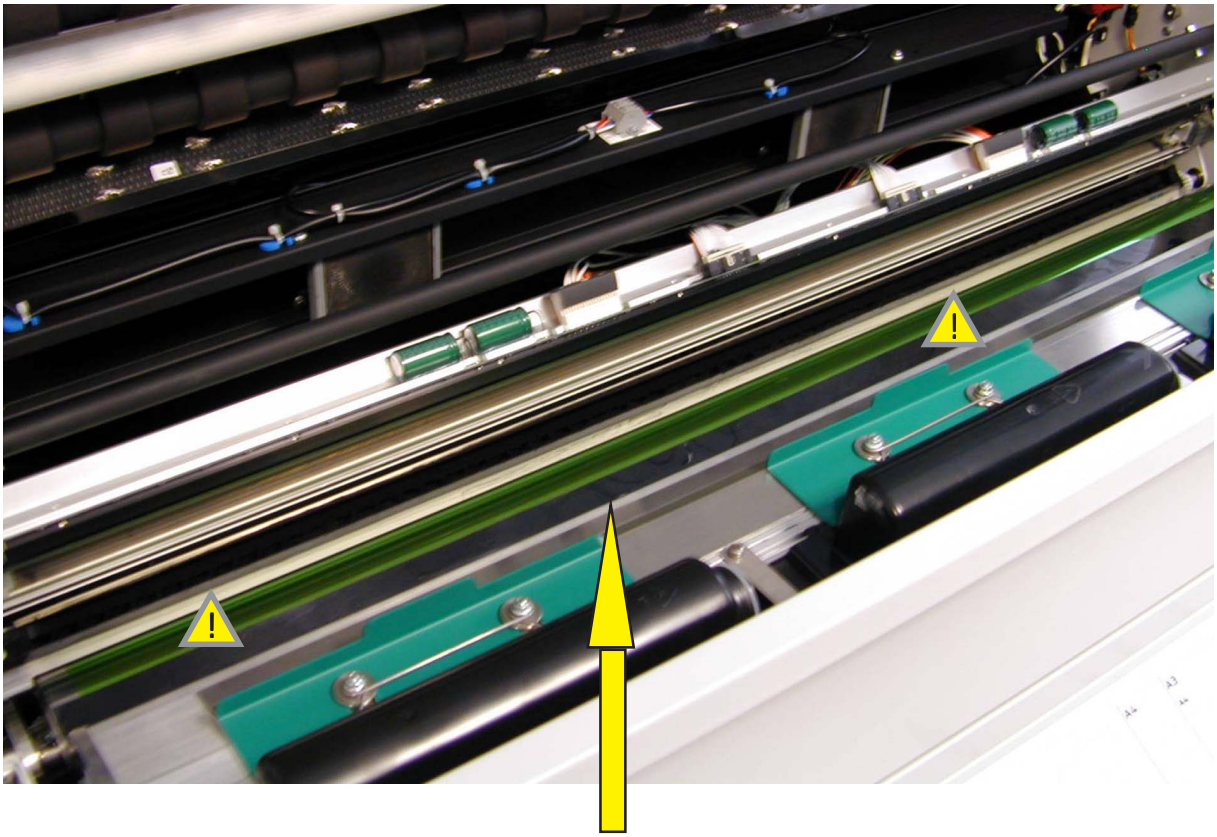
jam drum

The drum exit is monitored by a sensor.
The message "jam drum" indicates that the printing medium has not been separated from the drum correctly. In this case, an emergency cut is made automatically and all paper is transported back into the roll drawer.
The paper in the drum area must be removed manually. To do this, open the manual infeed flap and the guide plate behind it. The end of the paper is located behind this guide plate. Now carefully pull the paper out of the machine.
Close all covers again and start a new plotting job by pressing the Test key. If this again leads to a jam message, inform the Service Department.

Caution:

The coating on the OPC photoconductor drum is not there for protection or decoration purposes but is first and foremost a semiconductor.
Please refer to the safety data sheet for the photoconductor drum.
The photoconductor drum is continuously cleaned by a cleaning blade in the machine. Therefore, never try to wipe any dirt off the drum surface.
You must not touch the surface of the drum with your fingers, nor must it be scratched with any other object (e.g. watch, ring, screws).

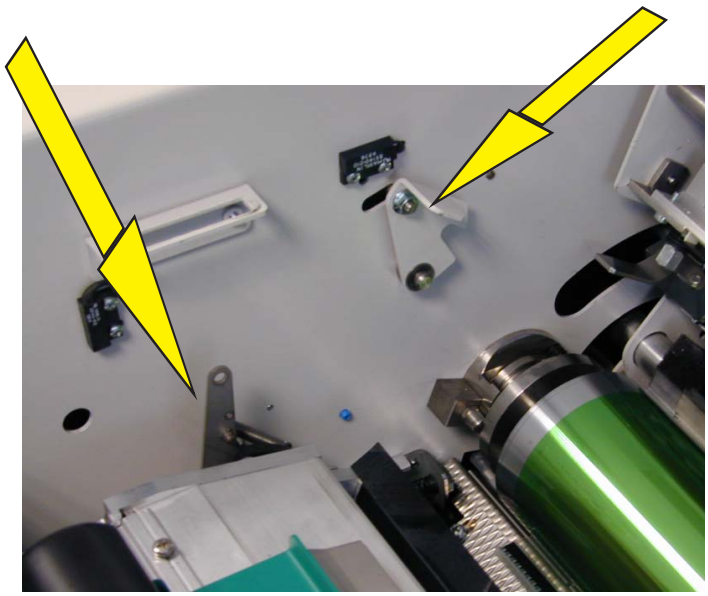
View of the photoconductor drum with the plotting head swung aside.



Caution: *A paper jam under the photoconductor drum can only be removed by specially trained personnel. You must not touch the drum surface.*

Developer unit lock

Plotting head lock



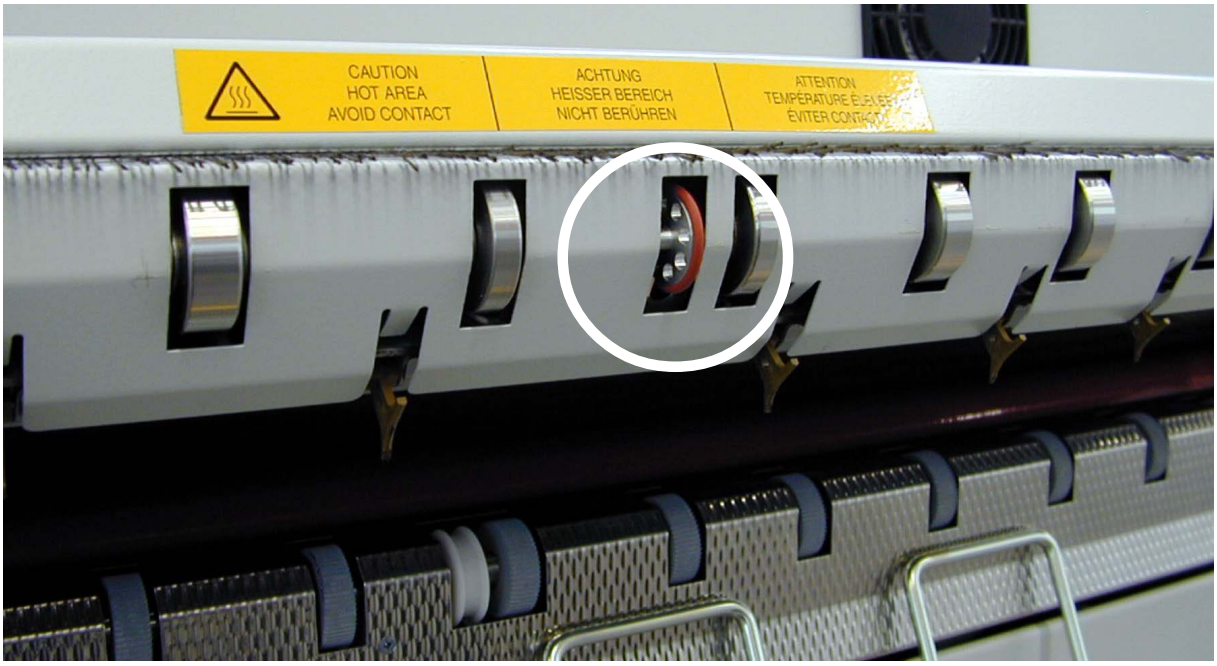
jam fuser unit

The transport of the paper in the fuser unit area is monitored by a sensor. The sensor is located at the paper ouput slot and consists of a pulse generator which is in direct contact with the paper and thus registers ever movement of the paper. If the paper is not moving, no pulses are given and all drives and the fusing heater are switched off immediately. At the same time, a cut is initiated and the end of the paper is retracted back into the drawer by means of the offline procedure. Any paper remaining in the fusing unit must be removed manually.
The starting edge of the paper can be seen at the plotter output slot and can now be pulled out easily.
If the paper is not visible, the starting edge may be behind the output flap. In this case, the paper can be pulled out from the back.

Caution:

Depending on the medium used, the fusing temperature can be 165-185 ^{0} C. Please therefore proceed with extreme caution when removing a paper jam in this area and wear heat-resistant gloves because the covers are hot.

After removing the paper jam, close all covers, start the online procedure and start a new plotting job by pressing the Test key.
If a jam occurs again without an obvious cause, the output sensor is probably faulty. Inform the Service Department at once. The output monitor can be rendered temporarily inoperable by setting a special parameter until a service technician is available.



Sensor at Output Slot

The sensor at the output slot rests under its own weight on the exiting paper. If the sensor is jammed or sluggish, the jam message shown adjacent will be displayed. Check the rotary encoder for smooth running both in rotation and in pressure.

When you lift the output flap, it automatically locks into place in the up position. To close the flap, gently lift the locking lever at the left hand side.

Fusing Temperature Problems

temp.sensor err.

Maintenance of the specified fusing temperature is an important criterium for the quality of the plot. The function of the temperature sensor is checked during every warm-up phase, i.e. in the warm-up phase, the sensor must show a particular characteristic, in accordance with the data sheet. If this deviates too greatly, the heater is switched off and the message "temp.sensor err." is displayed.

1. Check the position of the temperature sensor.

2. Press the "cut" key for approx. 3 seconds to perform a hardware reset. The plotter executes 2 cutting operation. A hardware reset takes place after the 2nd cut.

fus.temp. high

The message "fus.temp. high" indicates that the heater regulator is not working properly. The heater is probably remaining on all of the time because an all-or-nothing relay is faulty. The plotter will not exeucte any more plotting jobs after this message has been issued. Because the regulator has failed, the temperature will continue to rise until an overheat circuit breaker trips and switches off the heater. This fault can only be rectified by a service technician.

fus.temp. low

The message "fus.temp. low" indicates that the required fusing temperature has not been reached. The plotter will not execute any more plotting jobs after this message has been issued, because if the temperature is too low, the toner will not be fused on the paper. The cause may be the failure of a heating element, or the overheat circuit breaker may have tripped.

Check the overheat circuit breaker and if necessary, reset the reclosing lockout. If the overheat circuit breaker trips again, inform the Service Department.

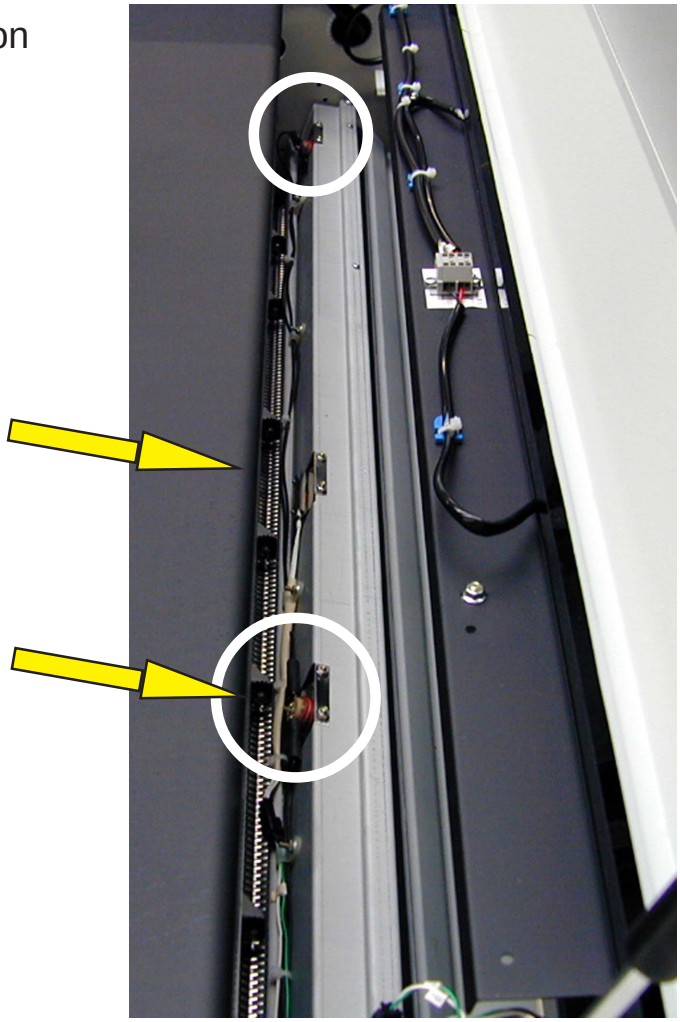
Caution: *Depending on the medium, the fusing temperature is 165-185 ^{0} C. The covers in this area will be hot, so please proceed with extreme caution and wear heat-resistant gloves.*

Temperature sensor location

1. Open the top cover.

Locaction of the temperature sensor

Location of the overheat circuit breaker



2. Press the 1mm thick trip pin in the center. If the reclosing lockout has tripped, you will feel it locking back into place.
   The reclosing lockout has thus been reset.

Toner Warning and Toner Empty

toner warning

toner empty

The message "toner warning" indicates that new toner cartridges have to be inserted.
If plotting is continued without renewing the toner, the error message
"toner empty" will appear a short time later.
After this message has been issued, the plotter will not accept any more plotting jobs. Any job in progress will however be finished.
Insert new toner cartridges, as described in detail on page 28.

After the cover has been closed, the plotter will start up automatically after a 1-minute long mixing procedure has been completed. This restores the toner to its original concentration.

The error message disappears and the plotter executes all pending plotting jobs.

Important:
i

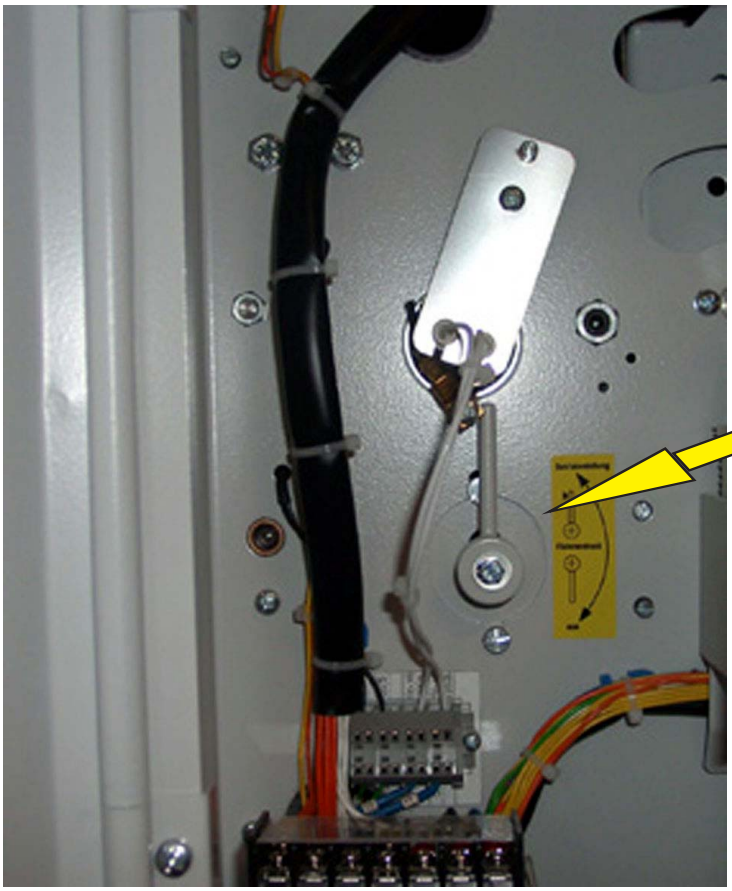
After removing the empty cartridges, check the toner level in the supply box. Do not insert new cartridges if there is still enough toner left in the box. In this case, call in a service technician.

Troubleshooting

The operator can normally rectify the following faults himself. If you cannot solve the problem by following the instructions below, please contact Customer Service.

Nothing happens when the main switch is switched on! The display stays dark.	No power supply. *Check all fuses in the supply line.*
Message "system started" remains displayed	No power supply to the PC motherboard. *After a brief pause, switch on the plotter again.* The system has not booted up properly. *Reboot the system from the plotter display.*
Dirty copies	The toner cartridges have not been inserted in the proper manner. The paper guide plates are very dirty.
Faint copies	The developer unit is not engaged properly. *Check whether the developer unit has been pushed fully in up to the limit stop and that the locking levers (see page 59) of the developer unit are locked into place.*
Contrast not uniform	The plotting head is dirty with toner dust. *Lift up the plotting head (page 59) and clean the botto edge with a dry, lint-free cloth.*

Image has not set, it can be wiped off.	Fusing rollers are not exerting any or enough pressure.



On older machines, the bottom roller is pressed into place by an eccentric cam. Check whether the eccentric cam is in the up position.

wrong

Image blurred	The plotting head is not locked. *Press lightly on the plotting head to engage the locking lever.*
Message "roll empty" appears even though there is enough paper	The roll holder has not been inserted correctly. *The roll holder is lying on the collar of the guide roller, and as a result, the "roll empty" message is being issued.* *Refer to pages 22/23 "Changing the Rolls of Paper".*