VT3000 web guide unit™

Operating and FRU Manual

Another quality product from:

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Dear Customer

Thank you for purchasing a VT3000 web guide unit™ high performance printing system. The VT3000 web guide unit™ provides the Technology you need to print and dry at high speeds. With this system, your company will increase throughput and quality.

The VT3000 web guide unit™ is one of many high-quality, innovative systems available from Matti Technology AG, Switzerland. If you would like information on our other systems or require technical assistance or spare part replacement, please contact one of our field service engineer or customer service specialists at:

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Again, thank you and welcome to the growing family of Matti Technology AG customers. We appreciate your current and continued business.

Sincerely,

Dr. Dieter Woschitz
President

Pascal Fäh
Vice President Operating
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1.2 List of Tables
2 Foreword

The purpose of this manual is to provide the necessary information to enable experienced personnel to maintain the Versamark® VT3000 web guide unit System.

It is assumed that all necessary tools, precision measuring devices and equipment for safely maintaining this system will be available. Information and data is based on the latest product information available at the time of writing.

The right is reserved to make changes at any time, in materials, specifications, models and discontinue models.

Note: In order to clearly show details of this system some covers, shields, door or guards have either been removed or shown in an open position. All such protective devices must be installed in position before operating the system.

2.1 Important

Carefully read the instructions and safety precautions given in this manual. Do not attempt to maintain this system until you have thoroughly read and understood the data contained in this manual.

At the time of writing, this manual was completely up-to-date. However, due to product development, some illustrations or descriptions contained herein may vary to a slight extent from the system delivered to you. This merely implies that the system has been improved to better fulfill your requirements. If there are any questions, you are encouraged to contact our field service personnel for assistance at:

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For more information about other modules used with this transport please refer to the following manuals:

- VT3000 Instruction Manual
- VT3000 FRU Manual
2.2 Compliance statements

2.2.1. FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

2.2.2. European EMI Compliance Statement

This equipment generates, uses, and can radiate radio frequency energy. When this equipment is not installed in accordance with instructions in the installation chapter and is not used in accordance with the instructions in the operator safety information, the radio frequency energy may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user, at the user's own expense, will be required to take whatever measures may be required to correct the interference.

2.3 Inspection of Shipped Parts

Please inspect all packed materials carefully so that small parts are not inadvertently thrown away. Report any shortage or damage to Matti Technology AG and the carrier.

All equipment is shipped on one pallet and should contain all or some of the following parts:

- Web guide unit
- 5 Head Print unit with dryer and turnbar
- 3 Head module with dryer
- 3 head module without dryer
- Unwind unit
- Rewind unit
- Sheeter
- FanFolder
- Perforating unit
- Selective perforating unit
- Line hole punch unit
3 Specification sheet

3.1 General

Name / Type: DataRunnar™ VT3000 web guide unit
Operating speed: 5 - 150 m/min (16 - 500 ft/m)
Basic configurations: installed between infeed and first print module
Weight of material: coated and uncoated; 55 - 160 gr/m²
Min. web width: 200 mm (8”)
Max. web width: 520 mm (20.5”)
Sensors: “web position”
Dimension: 500x950x1200 mm (20” x 37” x 47”)
Weight print unit: approx. 140kg (308 lb)
Floor load: ≤ 40 kg per pad (≤ 90 lb per pad)
Power supply: 0.4A supplied from infeed cabinet
Noise level: 78 dB (A)
Ambient temperature and Relative humidity, transport: 60-85°F(15-29°C) @ 10-90% RH
                      60-104°F(15-40°C) @ 10-60% RH
                      60-85°F(15-29°C) @ 30-60% RH
Agency compliance (in progress): CE; UL; CSA
Max. crating height: ≤ 1.6m (≤ 63”) to fit into a normal aircraft
MTBF: 6 month; does not include Kodak equipment
Painting: Kodak Versamark Grey (RAL 7024)
4 Safety information

4.1 General

The VT3000 web guide unit is designed for safe operation. Nevertheless, installation, maintenance and operation of the system can be dangerous for a careless operator or maintenance person. For your safety and the safety of others, please read the instructions of this INSTRUCTION MANUAL and follow these safety practices, which will help to prevent accident or injury.

4.2 Safety Information for the Owner

The owner of the system has to assure that the system is only used under good operating condition which adheres to the safety regulations.

Only trained and qualified personnel which are totally familiar with all the safety and mechanical instructions and devices should operate the system.

Supervisors have to assure that they are familiar with all the chapters of operating and safety of the equipment. Furthermore he should be familiar with the general requirements of accident prevention and preservation of the environment.

4.3 Safety Information for the Operator

The Operator of the equipment must read and understand the operating instructions, especially the paragraphs regarding safety. This is especially important for shift personal that might not be involved with this equipment on regular basis.

The Operator must be familiar with the safety and accident prevention information and should avoid any functions on the machine that is doubtful and any violation of the operating procedure of the VT3000 web guide unit System.

4.4 Specific Security Advices

Prior to any kind of repairing, the MAIN SWITCH has to be turned off. The location of the main switch is to be secured with a padlock to prevent accidental switch on. Only original part used in correcting / repairing the machine will secure correct functioning and protect warranties.

Any changes to the System, including components requires prior written approval from the manufacturer.
Main Switch:
The main switches for the transport system and dryer are located on control cabinets. These switches turn the systems on and off.

**WARNING**

This switch does not disconnect all power of this machine. Make sure all power switching off before servicing!

Illustration 1: Dryer main switch

Illustration 2: Drive main switch
External Emergency Stop:
The external emergency switch shuts down the system in case of emergency.

Illustration 3: Emergency stop

Function of the Emergency Circuit:

Illustration 4: Function of the Emergency Circuit
4.6 Machine handling and lifting

The following illustrations shows on which positions the parts of the machine can be lift by a forklift.

4.6.1. Web guide unit

Illustration 5: Lift the web guide unit

**ATTENTION!**

Never lift the unit by the Kodak Versamark support.
Move the print unit only with a forklift.

**ATTENTION!**

Move the print unit only with a forklift or a pallet truck.
4.7 Mechanical Safety

Wear safety shoes and safety glasses at all times.
Remove or secure items that could be caught, fall into, or tangled in the mechanisms, including jewellery, loose clothing, and long hair.
Keep all equipment cover closed when operating the printer.
After a fast or emergency stop, make sure all error conditions are corrected before trying to restart the printer.
In the event of leaks or breaks at pressure relief valves, automatic pressure regulators, limit sensors, and other automatic safety features, turn off all compressed air to the system.
The air expandable shafts require the same action if a leak or break occurs.
Watch your feet's when loading, unloading and handling the paper roll.
Do not touch any moving parts.
Do not remove any cover of the unit.
If any unsafe situation is possible or recognized stop the machine immediately and switch it off. Do not run the machine again till the situation is safe.

4.8 Electrical Safety

There is danger of electrical shock when servicing the transport, dryer or control cabinet. Even when the circuit breaker of the control cabinet is in the OFF position, there is live HIGH VOLTAGE (up to 480V) present at the power entry of the circuit breaker.

WARNING!

ALWAYS disconnect the external power prior to servicing the system.

NEVER operate the system with open doors of control cabinet or transport.

DANGER!

Power terminals remain live up to 3 minutes after mains disconnection.
4.9 Fire Safety

When operated using the maximum recommended drum dryer set-point temperature of 265°F (130°C), there is no fire hazard from operating the system unless the flash point of the web or coatings are below 265°F (130°C).

CAUTION!

If drying on a web consisting of material or coatings with flash points below the set-point drum dryer temperature, jams or stoppages in the transport may cause a FIRE HAZARD.
In these instances, NEVER operate the system unless an operator is present at all the time.
In these instances, NEVER operate the system without a FIRE EXTINGUISHER in the immediate area.

4.10 High Temperature

During operation, the aluminum drum dryer can become very hot. Contact with the drum dryer may cause severe BURNS.

WARNING!

NEVER place hands on the drum dryer.
Wait 15 min for to cool down
or use heat resistant gloves.

The maximum allowable drum dryer set-point temperature is 265°F (130°C). If a power controller of feedback circuit malfunctions, a safety circuit automatically turns off the system when any zone exceeds 480°F (250°C).

The excess temperature circuit will allow the dryer to restart when the temperature drops below 480°F (250°C).
5 Labels

The following chapters explains the different labels used on the transport system.

5.1 Safety Labels

5.1.1. Dangerous voltage

Dangerous voltage. Contact may cause electric shock or burn. **DANGER!** Power terminals remain live up to 3 minutes after mains disconnection.

5.1.2. Burn hazard

Burn hazard, hot surface. Do not touch the surface of this component during equipment operation. Allow to cool down before servicing.

5.1.3. Danger of cuts from moving paper

Danger of cuts from moving paper. Keep body away from edge of moving paper.
5.1.4. Danger of crushing

![Illustration 9: Danger of crushing]

Danger of crushing from moving paper roll. Stand back from the lift arms and paper roll during operation.

5.1.5. Pinch pint rollers

![Illustration 10: Pinch point rollers]

Pinch point danger from rollers. Keep hands and clothing away from rotating rollers.

5.1.6. Pinch point from moving parts

![Illustration 11: Danger from moving parts]

Danger from moving parts. Moving parts can crush and cut. Do not operate with guard removed. Follow lockout procedure before servicing. Disconnect main power before servicing.
5.1.7. Danger of entanglement from belt drive

Illustration 12: Danger of entanglement from belt drive

Danger of entanglement from belt drive. Shear hazard. Moving part can crush and cut. Keep hand clear. Do not operate with guard removed. Follow lockout procedure before servicing.

5.1.8. Danger of entanglement from rotating gear

Illustration 13: Danger of rotating gear


5.1.9. Danger of cutting blade

Illustration 14: Danger of cutting blade

5.1.10. Danger of cutting of fingers or hand

Illustration 15: Danger of cutting of fingers or hand / angled blade

Danger of cutting of fingers or hand. Moving parts can crush and cut. Do not operate with guard removed. Follow lockout procedure before servicing.

5.2 Text warning Labels

5.2.1. Running with different voltages and frequencies

ATTENTION!

Follow the instructions in the manual for running with different voltages and frequencies.
Suivez les directives dans le manuel pour l'utilisation avec des voltages et des fréquences différents.
Beachten Sie die Hinweise im Manual um mit verschiedenen Spannungen und Frequenzen zu arbeiten.

Illustration 16: Running with different voltages and frequencies
5.2.2. Disconnect main switch before servicing

ATTENTION!

Disconnect main switch before servicing!

Débranchez le commutateur principal avant l’entretien!

Hauptschalter ausschalten bevor irgendwelche Servicearbeiten durchgeführt werden!

Illustration 17: Disconnect main switch before servicing

5.2.3. This switch does not disconnect all power of this machine

ATTENTION!

This switch does not disconnect all power of this machine. Make sure all power switching off before servicing!

Cet interrupteur principal ne met pas l’appareil entier hors circuit. Il faut mettre hors circuit important interrupteurs principaux avant que des travaux de service ne soient effectués!

Dieser Hauptschalter schaltet nicht die ganze Maschine aus. Es ist wichtig alle Hauptschalter auszuschalten bevor irgendwelche Servicearbeiten durchgeführt werden!

Illustration 18: This switch does not disconnect all power of this machine
5.2.4. Inside the dryer it is maybe very hot

**ATTENTION!**

Inside the dryer it is maybe very hot. Please wait for about 15 min. to cool down until opening the dryer or carry heatproof gloves.

À l'intérieur du sécheur c'est peut-être très chaud. S'il vous plaît attendez approximativement 15 min. avant d'ouvrir le sécheur et porter des gants résistants à la chaleur.

Im Innem des Trockners kann es sehr heiss sein, warten Sie für 15 min. um abzukühlen oder benutzen Sie hitzebeständige Handschuhe.

Illustration 19: Inside the dryer it is maybe very hot

5.2.5. Compressor installed under the cover

**ATTENTION!**

Compressor installed under the cover. Please refer to the manual for maintenance.


Le compresseur est sous la couverture installé. Veuillez considérer les indications dans le manuel d'entretien.

Illustration 20: Compressor installed under the cover
5.3 Position of safety labels

5.3.1. Danger from cuts and crush

Illustration 21: Danger from cuts and crush
6 Site preparation

6.1 Electrical requirement

Power input  
208V – 240 V ± 10 %
50Hz ± 0.5 %; 0.4 A
short circuit capacity of Breaker/Fuses 10 kA

Note: power for Kodak Versamark data and print station not included

6.2 Fire Precautions

Fire extinguisher near the machine; CO2-type

6.3 Mechanical / Physical

Working space front side  
1500 mm (59”)
Working space back side  
2000 mm (79”)

Note: space for Kodak Versamark data station and print station not included

Floor loading capacity  
> 500 kg / m²
Floor loading per pad  
≤ 450 kg (≤ 1000 lb.)

Ambient temperature and relative Humidity

transport  
15 – 29°C (60 – 85°F) @ 10 – 90 % RH
15 – 40°C (60 – 104°F) @ 10 – 90 % RH

operating  
15 – 29°C (60 – 85°F) @ 30 – 60 % RH

best for printing  
18 – 23°C (64 – 73°F) @ 50 % RH
6.4 Pad loads of the unit

6.4.1. Pad weight VT3000 web guide module MAT-WGM

**MAT-WGM**
(VT3000 web guide module)

- **Tot. Weight:** 140kg 308.6lbs
- **Pad 1:** 35kg 77.2 lbs
- **Pad 2:** 35kg 77.1 lbs
- **Pad 3:** 35kg 77.1 lbs
- **Pad 4:** 35kg 77.2 lbs

Dimensions:
- 930mm
- 500mm
- 330mm

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6.5 Dimensions of packaged units

If the web guide module is shipped together with a 5-head print unit the infeed and outfeed unit will be fixed at the web guide unit.
If the web guide module is shipped together with a 5-head print unit and a 3 head print unit the infeed will be fixed at the web guide unit and outfeed unit will be fixed at the 3-head unit.

6.5.1. Web guide module

Weight: 200kg (440 pound)

```
130 cm (4.2 ft)  110 cm (3.6 ft)
```

```
135 cm (4.4 ft)
```
7 Installation and Operation

7.1 Introduction

The VT3000 web guide unit system is specifically designed to sidewise adjust the paper going into the print unit. This adjustment is recommended as a normal paper roll always has some small variations and the paper roll mounted at the unwind unit may varied at it position.

7.2 Mechanical installation

Install the web guide module between the infeed module and the first print module.

7.2.1. Installation on an new machine

The infeed unit and the infeed electrical cabinet should already be mounted on the web guide unit.
If not please refer to chapter: 7.2.2 Installation on a existing machine on a page 26.

7.2.2. Installation on a existing machine

For installing the web guide unit on an existing machine please follows these steps:

1. Disconnect and remove the infeed unit.
2. Disconnect and remove the infeed electrical cabinet.
3. Mount the web guide unit at the position the infeed unit was mounted.
4. Mount the infeed electrical cabinet and the infeed unit at the paper inlet side of the web guide unit.
5. Connect all cable according to the schematic.
   Cable 3X20 and 3X21 may need to be replaced or extended.
   If now schematic is available at site or the cable need to be extended please contact your Kodak Engineer or Matti Technology AG. Please mention the type numbers and serial numbers of the units and cabinets.
6. For the transformer cover an additional plate is shipped with the web guide unit. This cover must be clamped to the existing cover to prevent touching the transformer.

7.3 Electrical installation

Connect the power supply cable at the infeed electric panel at the power outlet 3X12.
Connect the communication cable at the infeed electric panel at the socket 3X30.
7.4 Operation

7.4.1. Web path

Illustration 22: Web path
7.4.2. Adjustment of the web guide

Illustration 23: Controller web guide

Button “value decrease”
To decrease the set up - Modus parameter or parameter-values.

Button “value increase”
To increase the set up - Modus parameter or parameter-values.

Main voltage +5 VDC
The LED lights up, if + 5 VDC on the control electronics

Digital display
The Digital display shows a parameter, parameter-value or the web movement

Display regulator barrier
If the regulator-barrier LED blinks, a voltage of 24 VDC is on the same-named terminal. The web guide regulator works only in the manual or centre mode position, Automatic- modus is blocked.

Set-up
In combination with the button of Set-up, different functions are possible.

Automatic mode
If this is pressed, the green LED lights. If the LED blinks, the signal for the regulator-barrier is on, the automatic mode is blocked.

Centre position
If this is pressed, the web moves to the stored centre position. The LED blinks during this time. If the centre-position is reached, the LED turns on.

Manual mode
If the manual mode is pressed, the LED turn on. The web can be moved by pressing the buttons. The button hand-mode is pushed; the LED turns on. If the buttons web move / hand adjustment are pushed, the LED blinks. If the web reaches the end position, the LED shines in the corresponding button. Shortly before achievement of the end position, the LED blinks.
Buttons “Web move / Hand adjustment”
In the operating mode hand can be steered the servomotor with these buttons to the left or right.

7.4.2.1 Display sensor signal

On this Display, you see the output-signal of the sensor. As more the LED Display sprouts, as further the web guide lies outside the sensor-optics.

For future details about the web guide unit please refer to the BST web guide manual supplied with the web guide module.
8  Maintenance

Before doing any maintenance switch off the machine and guard the main switch with a pad lock. These Maintenance plan is based on a 40 hour week.

8.1 General

- Always keep the machine as clean as possible.
- Always look out for loose or worn parts and report them to a supervisor.
- Never abuse or misuse the machine.

8.2 BST web guide

The BST web guide is maintenance-free.

For optimum guiding results the sensors have to be kept clean. Therefore clean the sensors regularly. The cleaning should be carried out with a dry, clean and smooth cloth.

Cleaning of the keyboard should be carried out with a dry, clean and smooth cloth. With high contamination, use for cleaning a usual liquid cleaner or spirit.
9 Trouble shooting

9.1 Printing Problem

For printing problems please refer to the print head manual from Kodak Versamark.

9.2 Electrical Control Problem

If electrical problems occur please check the following points:

- No fuse dropped
- All cable connected
- Power supply OK
- All main Switch turned ON

9.3 Machine Running Problem

If the machine will not run please check the following points:

- All main switch turned ON
- Emergency stop button not released or reset
- No drive fault
- Nip roller are in correct position

9.4 Paper Processing Problem

If paper running problems occur please check the following points:

- Sensors well aligned
- Web guide not at end position
- Correct web path
- Machine alignment
- Side guiding ring adjusted to paper width
- No disturbing parts in web path
- All roller turn easy

For error messages on the web guide please refer to the BST manual.
When ordering spare parts, please note the type number and the serial number of the machine to facilitate correct identification of parts, together with the Part No. of the component. The type number and the serial number are written on the type plate at the drive side of the machine.

10.1  100575 Web guide unit overview

Illustration 24: Web guide unit overview
### 10.2 100565 Idle Roller Ø58mm

<table>
<thead>
<tr>
<th>Object - #</th>
<th>Quantity</th>
<th>Part - #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>100482</td>
<td>Roller shaft</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>100083</td>
<td>Roller tube</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>100127</td>
<td>Insert</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>6205 – 25x52x15 2ZC3</td>
<td>Ball bearing</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>11.2007.1768</td>
<td>O-Ring</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>62312500</td>
<td>Clamp, slitted</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>D=12/M10x20</td>
<td>Hex barrel screw</td>
</tr>
</tbody>
</table>

Illustration 25: Idle Roller Ø58mm
11 Paper Handling and Storage

11.1 Paper

There are many types and grades of paper available, e.g. bonds, carbonless, carbon coated, laids and woven, etc. Each manufacturer has his own specification for their papers. Between manufacturers you will find the paper varies, i.e. carbonless paper can have a different grammage base stock, different thickness of coating, different grade of fibers or laids and woven may vary with different percentages of cotton and paper fiber sizes etc. Always consult your paper supplier for technical handling and processing information, most suppliers will give you a handbook on their papers.

11.2 Handling

Handling of paper stocks is just as critical as storage, as poor handling practices can also damage paper stocks and consequently give rise to production problems.

Always handle packs and reels as little as possible to reduce the risk of damage.

Avoid bumping or dropping packs and reels of paper, particularly coated stocks which are pressure sensitive.

Avoid rolling reels, especially over rough surfaces.

Don’t tilt, spin or swivel reels on their edges.

Always stock packs in a sensible manner. Box finished packs as soon as possible and avoid over stacking packs.

The best way to handle reels when stripping off their protective wrappings is to keep them on one end of a pallet base, using a pallet transporter or forklift truck. Alternatively, a cradle trolley can be used, but make sure the frame is padded with a pressure absorbing material.

Care should always be exercised when moving reels from a vertical to horizontal position for fitting press mandrels or airshafts etc. Ensure a pressure-absorbing pad of corrugated material or foam rubber is placed under the edge on which the tilt occurs. This will avoid crushing of the edges of the web.

Always handle with care.

Note: Always consult paper manufacturers or suppliers for any specific paper handling requirements.
Paper should be stored in rooms suitable for paper storage. It should not be stored near radiators, heater blowers, water pipes, fans, open windows, in direct sunlight, next to walls or lying on the floor.

Climatic conditions should not be subject to large fluctuations. We recommend storing paper, especially chemical coated stocks under the following conditions: 18° to 20° Celsius (64° to 68° Fahrenheit) at 45 to 55% RH. To avoid processing problems, the paper should be wrapped if in pack form, until the stock is required for processing. If the stock is to be processed further at a later date, always re-box and wrap.

The paper temperature should be the same as of the processing room. Temperature changes are very significant in the cold months. Generally, paper should be stored under the above conditions for at least 130 hours before use.

As paper absorbs moisture it expands; as it loses moisture it shrinks. This movement expresses itself in one or more of the following ways: curl, waviness, or ‘tight’ edges to sheets, slack or ‘long’ edge on reels.

The result of this can cause miss-feeding, poor delivery, web wander, miss-register, creasing, etc.

Coated papers such as CB (coated back) CF, (coated front) and CFB (coated front and back) are more sensitive to humidity and temperature changes than standard plain stocks.

As full control of atmospheric conditions is rare, it is desirable to adopt certain practical procedures to inhibit the risk of any of the above faults developing.

When storing paper the following points should be considered:

- Always keep paper off the floor and away from heaters and walls.
- Always make sure reels and packs are stacked correctly. See Illustration 27: Paper storage.
- Always try to keep control of temperature and humidity – this is critical.
- Never turn heating off at night in cold or damp environmental conditions.
- If you have large opening doors, fit a draught screen around the door to reduce the effects of cold, damp air.