Rho P10 250

Operating Instructions

06/2012

Original instructions

Contents

Table of Contents

A About these operating instructions

1 Using these operating instructions

These operating instructions are part of the unit.

1. Ensure that these operating instructions are accessible to personnel at all times.
2. Any supplements received from Durst Phototechnik AG are to be included with these operating instructions.
3. Give these operating instructions to any subsequent owners or users of this unit.

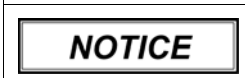
2 Depth of information in the software description

Basic knowledge These operating instructions require you to have basic knowledge regarding the operation of computers and are familiar with the basic functions of the Linux operating system. The accompanying user manuals for the PC and the Linux operating system will help answer any basic questions you have.

Depth of information To provide a better overview, only the software functions requiring an explanation are provided with one in these operating instructions. Software functions which are self-explanatory are not described.

3 Symbols and markings

The following symbols are used in these operating instructions:

Symbol	Meaning
✔	Requirement for an action
►	One-step action
1.	Step within a multi-step action
↳	Result of an action or sequence of actions
	Information on easier or safer work
(→ Page 19 / Description)	Cross reference
	Immediate danger, which could lead to death or serious injury if not heeded
	Possible danger, which could lead to death or serious injury if not heeded
	Possible danger, which could lead to slight injury if not heeded.
	Possible danger, which could lead to damage of property if not heeded

The following typographical markings (e.g. **bold**) are used in these operating instructions for differentiating between types of information:

Example	Meaning
Start Queue	■ Operating element on unit, e.g. buttons, levers etc. ■ Software element, e.g. menu name, menu entry, operating elements etc.
`start`	File name, path name
[ALT]	Keyboard key

B Safety

Read these operating instructions before using the unit and ensure that you have understood everything!

If it is determined that damage has been caused by a person's non-compliance with these operating instructions, Durst Phototechnik AG is in no way liable. Safe operation of the Rho P10 250 is only ensured when the following safety precautions and warnings are complied with exactly.

1 Intended use

The Rho P10 250 is suitable for printing plate and roll media (optional) within the specified limits (→ Page 85 / Technical data).

1.1 Impermissible use

The Rho P10 250 may not be used to print the following media, among others:

- Foodstuffs
- Animals
- Media outside the specified limit values

2 Duties of the owner

To ensure the safety of personnel, the owner must take the following safety measures:

- The personnel must posses the appropriate qualifications and be sufficiently trained.
- The operating instructions must be accessible at all times and followed by the personnel.
- The stipulated protective equipment must be made available to the personnel (→ Page 87 / Addresses).
- The warnings on the printer must always be legible and be kept in a visible and clean condition.
- Sufficiently bright illumination for the personnel must be ensured.
- All regional and national regulations and safety requirements are to be observed.

3 Safety and monitoring equipment

3.1 Protective equipment

- The purpose of the protective equipment for loading and unloading media and ink is to prevent the user from being exposed to electrical or mechanical danger. Under no circumstances may the method of functioning of this equipment be changed.
- The flip doors must always remain closed and may only be opened for maintenance and checks, e.g. checking of the material advance. If the flip doors are not closed, the printing process cannot start.

3.2 Signs on printer

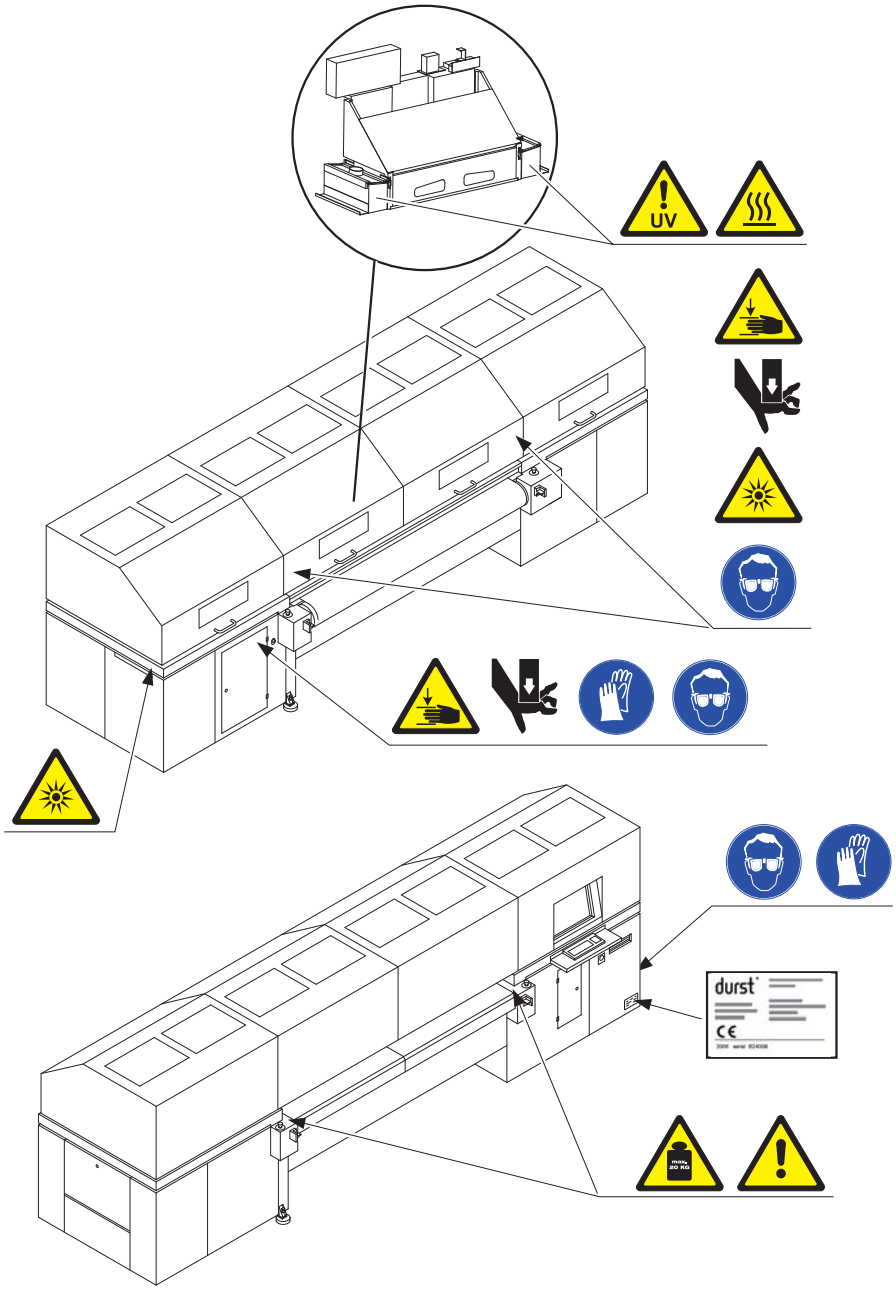


Fig. 1 Location of signs on printer

3.2.1 Warning signs

All warnings attached to the printer must be observed.

Warning sign	Meaning
	Wear protective gloves
	Wear safety goggles
	Danger of crushing
	Hot surface
	UV light

4 Ambient conditions and safety requirements

- The Rho P10 250 may only be operated under the specified ambient conditions (→ Page 85 / Technical data).
- The Rho P10 250 complies with the common safety standards and is CE-compliant.

5 Modifications, attachments and changes in location

The Rho P10 250 is installed and commissioned by authorized Durst service technicians.

- The installation location of the unit may not be changed. Structural stresses and strains are taken into account during installation. Any change to the installation location or structural modifications to the building must be approved by Durst Phototechnik AG.
- Opening the unit housing, electronics case and covers, except for routine work, and opening the workstation or unplugging the cable may only be performed by authorized Durst service technicians.
- Print heads may only be replaced by authorized Durst service technicians.
- The UV lamp protection prevents reflected light from drying out the ink in the print head, thus damaging it. The UV lamp protection may therefore not be removed.

6 Connection of external devices

The Rho P10 250 base unit features SELV connections in accordance with IEC60950. The computer features two Fast Ethernet connections (SELV) for connection to LAN/WAN networks. Only SELV-compatible peripheral devices which have been approved by Durst may be connected to the Rho P10 250 base unit and the Rho P10 250 computer.

7 Electromagnetic compatibility

The unit has been tested and corresponds with the restrictions for a Class A digital unit in agreement with the regulations of the FCC, Paragraph 15. These restrictions serve to provide appropriate protection against harmful interference with equipment used commercially. This unit generates, uses and radiates energy in the radio frequency range and can, if not installed or used in accordance with the requirements of this operator manual, cause harmful interference in radio communication. The use of the system in a residential area can lead to such interference. In this case, damage/loss caused by the interference are the fault of the user.

8 Specific types of danger

The Rho P10 250 has been constructed using state-of-the-art technology and following the recognized technical safety regulations. Areas of danger which cannot be avoided through design are provided with appropriate protective equipment. If the printer is used improperly, however, the user or third parties risk death or injury. The unit itself or another medium could also be damaged.

8.1 UV light

UV light emitted by the UV lamps onto the printhead carriage can cause lethal burns and damage to the eyes. The viewing window on the unloading side filters out the UV rays.

1. Do not remove the flip doors.
2. Check to make sure the flip doors are closed during printing.

8.2 Heat

The UV lamps on the printhead carriage are heated up to temperatures exceeding 65°C. Contact with the UV lamps can cause severe burns.

1. Before carrying out work on the UV lamp head wait at least one hour after the unit has been switched off until the lamps have cooled down.
2. Wear protective gloves when working on the UV lamp head.

8.3 Electrical energy

- The Rho P10 250 has a leakage current greater than 3.5 mA. Safe operation of the printer is ensured via a fixed connection to the ground wire.
- The entire unit is not de-energized even when the printer is switched off with the main switch.

► Do not touch any cables or electrical components even when the printer is switched off with the main switch.

8.4 Rotating and moving parts

Danger of knocks and crushing during uncontrolled movement of the printhead carriage.

The following dangers exist at a belt drive of the roller table and at a roll-driven conveyor belt:

- Hair and clothing being caught and drawn in
- Extremities being crushed

1. Do not remove the flip doors.
2. Do not remove the covers.
3. Do not wear long hair, jewelry or loose clothing.

8.5 Contact with ink

Coming into contact with ink is harmful to your health. Dangerous areas are:

- Ink supply unit with Durst Cubitainer
- Waste tank
- Carriage guide
- Light trap carrier

1. Observe the safety data sheets supplied with the ink.
2. Use only Durst ink in the Rho P10 250.

3. Wear protective gloves and safety goggles when purging the print heads, adding ink or emptying the waste tank.
4. Avoid allowing ink to contact your face or eyes, e.g. by rubbing your eyes with dirty hands.
5. If contact with the skin occurs, wash affected areas with pH-neutral soap and water.

8.6 Ozone buildup

To prevent ozone from building up in the room, we recommend setting up the external ventilator with a time delay. The time delay should switch off the ventilator at least 10 min. after the printer is switched off.

The external exhaust equipment is to extract an exhaust quantity of approx. 2300 m^3/h (at least 1000 m^3/h).

► Do not switch off external ventilator for exhaust during printing.

8.7 Risk of fire

The high temperatures of the UV lamps can cause inks and media to catch fire if the safety system fails.

1. Do not print media which have an ignition point of less than 150°C (302°F).
2. Ensure that suitable extinguishing devices are available near the printer.

9 Protective clothing

9.1 Safety goggles and protective gloves

► When purging the ink supply unit or the print heads, wear the protective gloves provided for this purpose and recommended safety goggles (→ Page 87 / Accessories and spare parts).

10 Handling media

The operating personnel should familiarize themselves with the unit before loading and unloading the media and inks.

10.1 Loading/unloading media

1. Since media have a considerable weight, ensure that your footing is secure before loading/unloading.
2. Before loading/unloading, ensure that there are no obstacles near the printer.

10.2 Refilling ink

► Use only the Cubitainers intended for the Rho P10 250 (→ Page 87 / Accessories and spare parts).

11 Maintenance and purging

- Apart from the activities described in the chapter entitled "Service", the customer may not perform maintenance or purging work. Regular and additional special service may only be performed by authorized Durst service technicians.
- Only spare parts and consumable media which have been specially developed and optimized by Durst may be used.
- When purging the housing or workstation, the printer and workstation must be switched off and disconnected from the power supply.
- Corrosive cleaning agents may not be used.
- The housing may only be cleaned with a lightly moistened cloth or a dust brush.
- Under no circumstances may cleaning agents penetrate into the interior of the printer or workstation.
- When changing fuses, the printer must be switched off with the main switch and disconnected from the power supply.
- If new fuses blow after replacement, you must contact Durst customer service.

12 Disposal

Information on proper disposal of Durst inks can be found on the data sheet for media safety contained in the ink refilling set or which can be obtained from Durst Phototechnik AG.

13 Emergencies

13.1 Emergency-Stop switch

1 Emergency-Stop switch

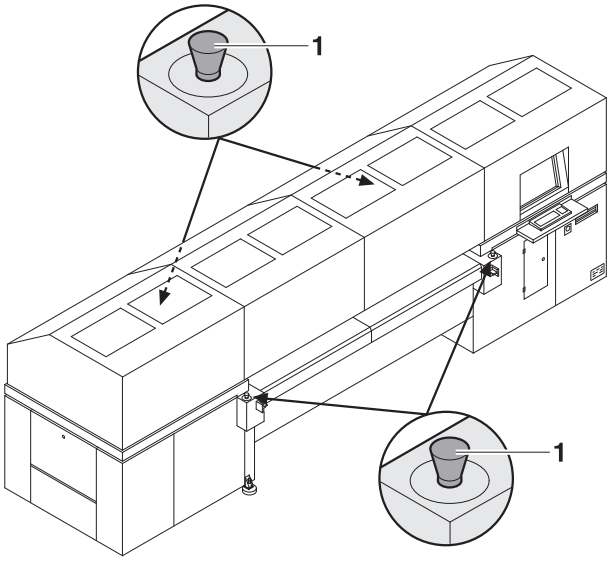


Fig. 2 Emergency-Stop switch

The Rho P10 250 can be switched off with the main switch or one of the Emergency-Stop switches (1). The main switch does not switch off the supply voltage completely. The voltage supply can only be switched off with an external protective switch.

13.2 What to do in case of an emergency

13.2.1 Switching printer off

► Switch off the Rho P10 250 immediately with one of the Emergency-Stop switches or the main switch if a fault occurs and safety could be compromised.

13.2.2 First aid in case ink contacts skin, mucous membranes or eyes

1. Wash affected areas with pH-neutral soap and water. Under no circumstances should solvents be used, as they remove oils from the skin and increase irritation.
2. Change your clothes immediately if heavy contamination has occurred.
3. If some spray has entered your eyes, wash your eyes immediately with lots water and contact a doctor.

14 Faults

14.1 Handling faults

► If the Rho P10 250 stops moving unexpectedly:
  – Switch off the printer with the **Emergency-Stop switch** and/or the **main switch**.
  – Notify the Durst customer service.

15 Avoiding damage to property

1 Encoder ruler
2 Conveyor belt

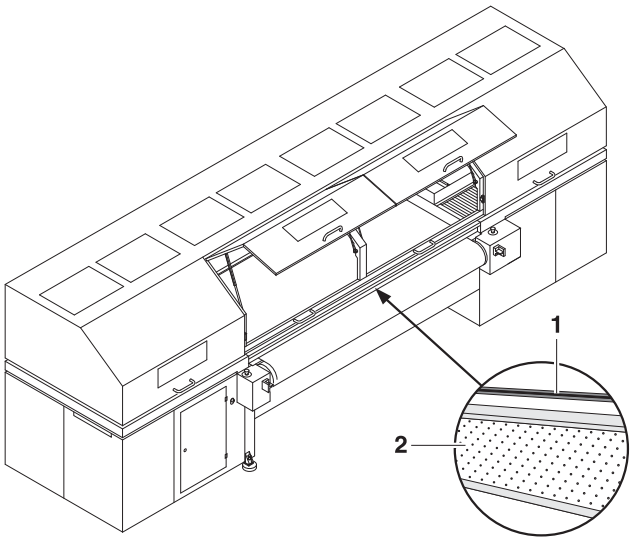


Fig. 3 Encoder ruler and conveyor belt

15.1 Careful handling of the encoder ruler

Scratching the encoder ruler (1) reduces the functionality of the printer.

► Do not touch the encoder ruler with hard objects.

15.2 Careful handling of the conveyor belt

1. Do not damage the conveyor belt.
2. Do not soil the conveyor belt.
3. Do not clean the conveyor belt with aggressive cleaning solutions.
4. Remove soiling from the conveyor belt only by means of adhesive tape.

C Description

1 Printer

Task The Rho P10 250 printer prints coated and uncoated plate or roll media, such as rigid- and flexible-foam panels, aluminum, acrylic glass, polycarbonate, etc. with a width of up to 2.5 m.

Components The printer consists of the following components:

1 UV lamp head
2 Printhead carriage
3 Workstation
4 Roller table (optional)
5 Medium

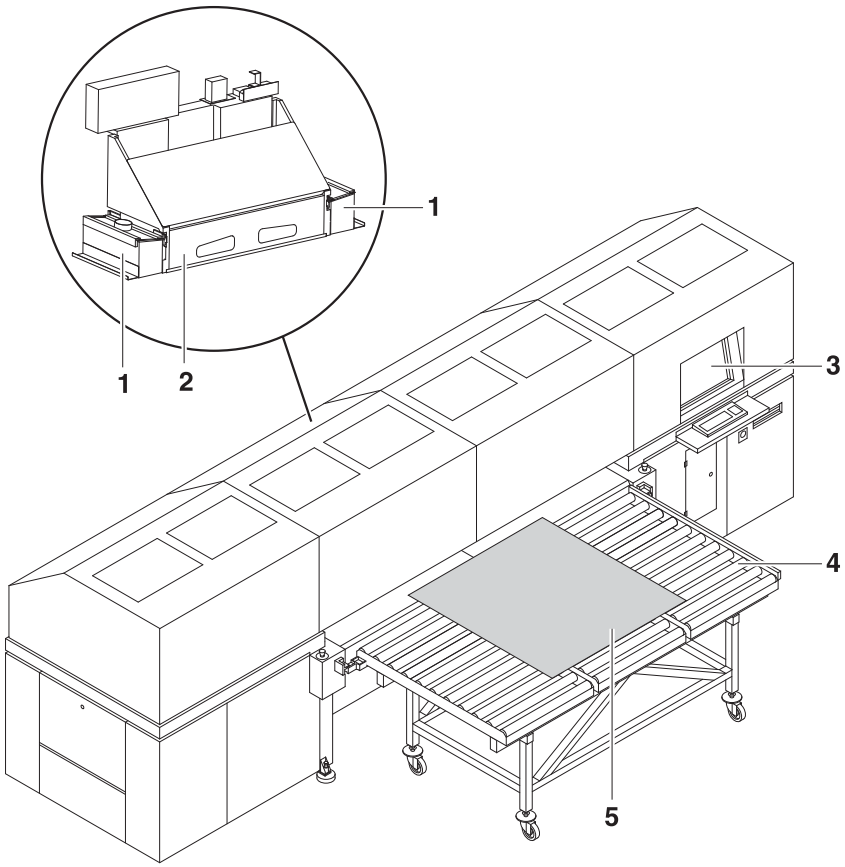


Fig. 4 Components of the printer (end at which the workstation is located: loading side)

Function The medium (5) is fed from the loading side. Usage of the roller table (4) allows plate media to be fed continuously on a larger scale.

Transport rollers on the inside of the printer transport the medium through the printer during the printing process.

The printer is operated at the workstation (3).

During printing, the printhead carriage (2) passes over the medium. The print heads on the printhead carriage print the medium with ink. The UV lamps in the UV lamp head (1) dry the ink on the medium.

1.1 Heavy roll tool (optional)

Task Roll media are loaded with the heavy roll tool.

Components The heavy roll tool is comprised of an unwinding unit on the loading side and a winding unit on the unloading side. The winding and unwinding units have essentially the same design

1 Roll mount
2 Roll medium
3 Roll-end sensor
4 Optical sensor

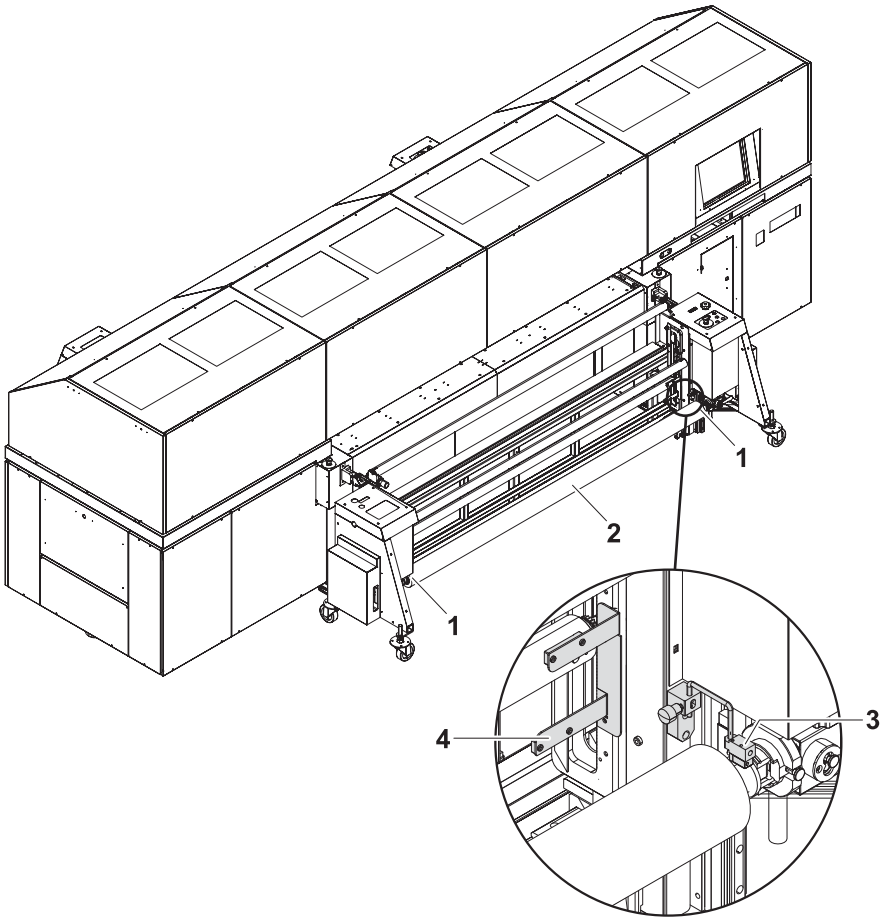


Fig. 5 Components of the heavy roll tool (shown here: unwinding unit on the loading side)

Function The core of the roll medium (2) rests on an axis that is borne in the roll mounts (1) of the unwinding unit or winding unit. Locking jaws on the axis are pressed against the core using compressed air. This secures the core on the axis.

The roll medium is lead through the printer over the redirection and tensioning rollers and wound on the winding unit on the unloading side.

Drives controlled via optical sensors (4) wind and unwind the medium.

The roll-end sensor (3) on the unwinding unit detects when the roll medium is fully unwound. The printing process is then automatically interrupted, and a message appears in the software.

1.2 Workstation

Task The printing process is controlled and monitored at the workstation.

Components

1 Monitor with touch screen
2 Keyboard
3 Computer

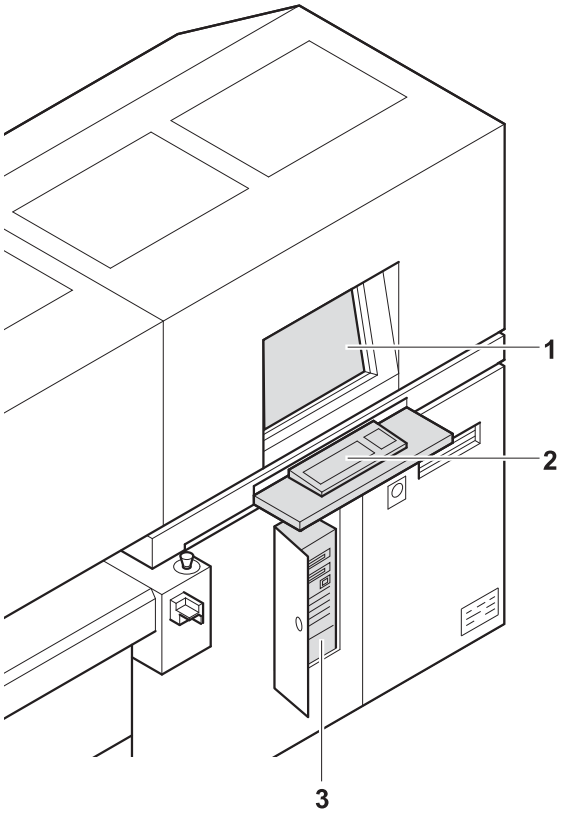


Fig. 6 Workstation

The workstation consists of the computer (3), monitor with touch screen (1) and keyboard (2).

Function The workstation makes available the software for controlling the printer.

The images to be printed can be loaded via a network cable to the workstation from the external CALDERA RIP station.

The operator performs the following activities at the touch screen:

- Preparation of the printer for loading the medium and for maintenance work
- Basic printing settings
- Modification of print parameters
- Sorting of images in the print queue
- Initiation of the printing process

1.3 Ink supply unit

Task The ink supply unit provides the print heads with ink of different colors.

Components

1 Ink supply unit

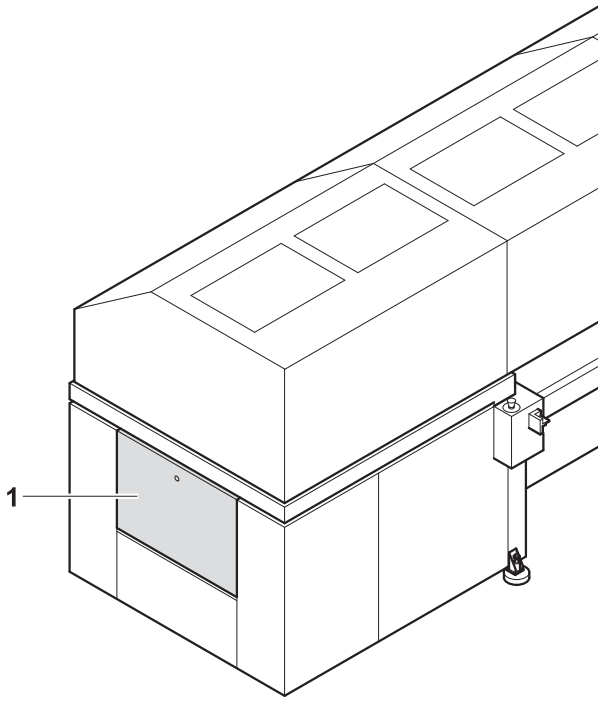


Fig. 7 Ink supply unit

Depending on the version, the ink supply unit (1) contains 4 to 8 ink tanks for ink of different colors and loading compartments for Cubitainers.

Function The ink is stored in the ink tanks. New Cubitainers are connected in the loading compartments to refill the ink tanks.

1.4 Purging system

Task The purging system is used for automatic and manual purging of the print heads.

Components The purging system consists of a catch tank and a purging access point.

1 Catch tank
2 Purging access point

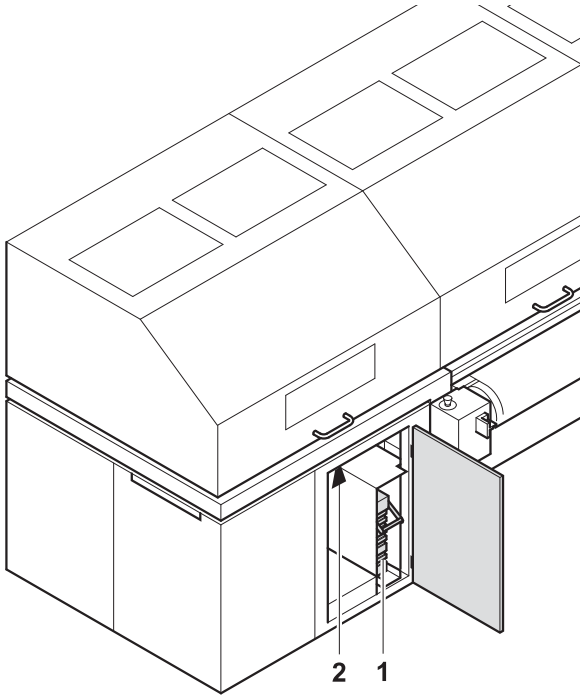


Fig. 8 Purging system

Function When the purging function is initiated, ink is forced through the print heads and collected in the catch tank (1).

The purging access point (2) allows manual purging of the print heads from below.

2 Workflow

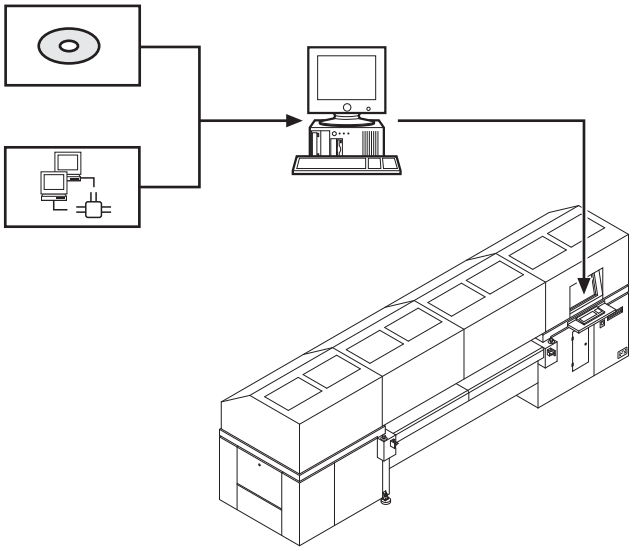


Fig. 9 Workflow

The image files to be printed are loaded onto an external RIP server via CD or network. A DTP professional or an automated workflow then fully prepares the image files for printing. The prepared images files are then transferred to a prepared printer hotfolder via the network.

The file is displayed in the input queue and is available for editing additional printing options, such as image cropping, media channel assignment and printing mode (2–5 Pass/HighSpeed/Draft glossy or matt).

D Installation and commissioning

Installation and commissioning are performed by service technicians authorized by Durst Phototechnik AG.

E Operation

1 An overview of daily tasks

1.1 Performing daily tasks

Preparing printer

1. Switch the printer on if it is off.
2. Start up workstation if not already done.
3. Check fill level of ink and refill ink if necessary.
4. Perform daily purging.

Printing

5. If printing extends past the medium edge, tape the conveyor belt at the medium edges to prevent soiling.
6. Prepare images on external RIP server and send them to printer.
7. Select or check print options at the workstation.
8. Move images to the queue.

Finishing work

For economical work, we recommend not shutting down the workstation when switching off the printer.

This allows you to prepare files and transfer data from the RIP server to the workstation even if the printer is switched off.

9. If the timer is not used, switch printer off.

2 Workstation

2.1 Keyboard

2.1.1 Pulling out the keyboard

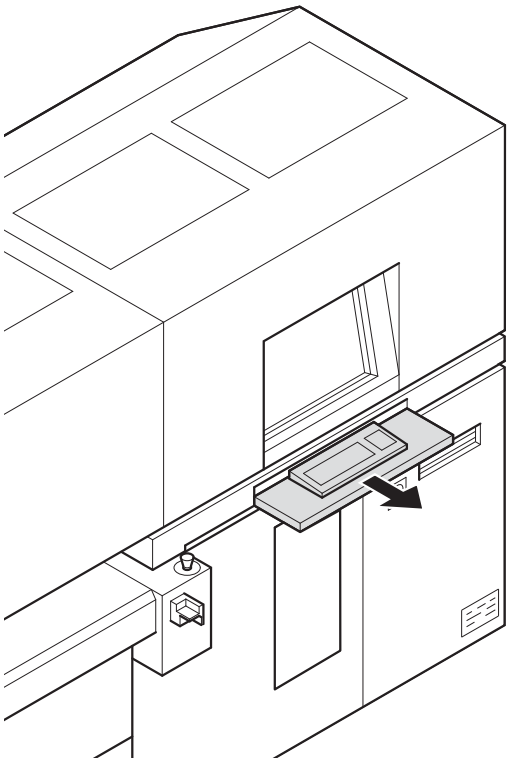


Fig. 10 Pulling out the keyboard

► Pull out keyboard.

2.2 Connection of external devices

2.2.1 Connecting a USB stick/an external USB hard disk

Data transfer from an external USB hard disk, for example, only makes sense via the connected RIP server since the image data to be printed must be in the 1-bit format.

NOTICE
Connection of an incompatible device to the workstation! **Damage to the workstation** ► Connect only SELV-compatible devices to the workstation.

► Connect a USB stick/USB hard disk to the USB port of the computer.

2.3 Booting up and shutting down the workstation

2.3.1 Booting up workstation

► Switch on main switch of computer.

↳ The LED illuminates.

↳ The computer boots up.

↳ The Linux screen interface appears on the monitor after booting up.

2.3.2 Shutting down workstation

Only the software should be exited daily, without shutting down the workstation. The monitor switches off automatically.

We recommend only shutting down the workstation if the unit will not be used for more than two days.

✔ The software has been exited

► Shut down Linux operating system.

↳ Once the Linux operating system has shut down, the workstation switches off automatically.

3 Switching printer on and off

The printer is only switched on and off in the following cases:
– The timer is not used
– The printer is being maintained
– The printer will not be used for a longer period of time

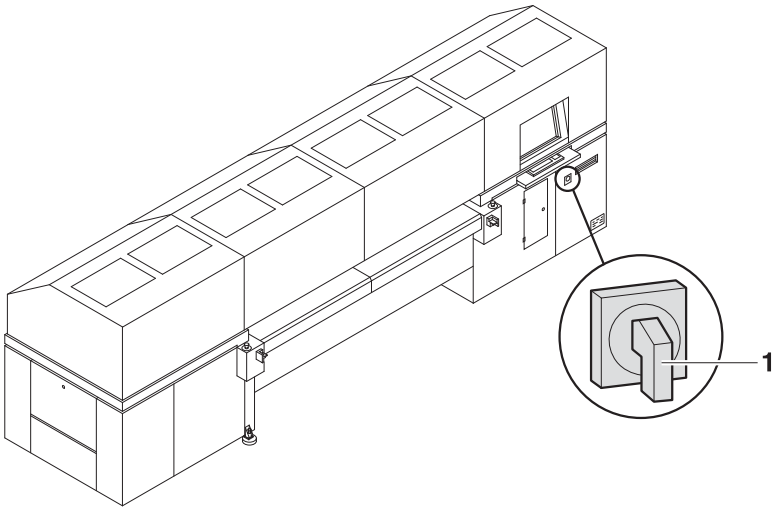


Fig. 11 Location of main switch

3.1 Switching printer on

✔ The workstation is booted up

✔ The software has been started

1. Switch on printer with main switch (1).

2. Close flip doors.
3. Press **Maintenance** in the software.
4. Select **Printer** tab.
5. Press **Initialize**.
   ↳ The printhead carriage, table fan and all motors move to the reference position.
   ↳ The interface between the internal electronics and workstation is initialized.
   ↳ The UV lamp system is initialized.
   ↳ The procedure is shown on the screen and is complete after approx. 3 minutes.

You must always load the medium in the software after initialization. This also applies if the medium was used just before switching off the printer.

6. Press **Media** > **Load** in the software.

3.2 Switching printer off

The workstation is not disconnected from the power mains when the printer is switched off.

⚠ WARNING

Energized components, even when the printer has been switched off!

Risk of death via electric shock

► Switch off printer with the main switch.

► Disconnect printer from the power supply.

► Switch off printer with main switch.

4 Basic functions of the software

4.1 Installation

You can install the software either via the Durst FTP server or from a CD.

You must enter the license number after the software is started to be able to use all the functions.

4.1.1 Installing software via the Durst FTP server

You can download software updates as an ISO file from the Durst FTP server.

► Contact Durst customer service for information on download and installation.

4.1.2 Installing software from CD

► Insert Rho P10 250 software CD and follow the instructions on the screen.

4.1.3 Entering software license

✔ The software has been started

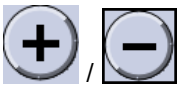
1. Press **Setup** > **General**.
2. Press **Edit**.
3. Enter license number in the **Validation Code** input field.
4. Press **Save**.

4.2 The menu bar

The menu bar is the starting point for all activities of the software. You can see the current program function at all times.

Fig. 12 Menu bar

The menu bar contains the following dialog elements, among other things:

Item	Function
	Open operating instructions
	Maximize/minimize program window
	Exiting the software

4.3 The status bar

The status bar informs you of the important current data of the printer, e.g. loaded medium, medium width, remaining length and ink fill level.

Fig. 13 Status bar

4.4 Basic operation

You can operate all dialog elements, e.g. buttons, scroll bars and arrow symbols, just by pressing the touch screen.

You can also use the keyboard, trackball and mouse.

4.4.1 Starting the software

✔ Monitor and computer are switched on

✔ The Linux operating system has been started

► Double-press  .

4.4.2 Exiting the software

1. Press  .

   ↳ The **Durst Rho P10 250** dialog window appears.

2. Confirm with **Yes**.

4.4.3 Operating dialog elements

► Press the desired dialog element on the screen.

– or –

Operate dialog element with keyboard, trackball or mouse.

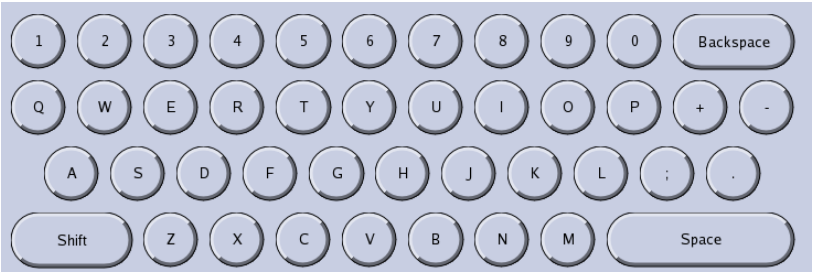
4.4.4 Selecting entries

► To select entries such as hotfolders or media, press the desired entry.

4.4.5 Entering data into input fields via the touch screen

1. Press the desired input field.

   ↳ A virtual keyboard appears.



2. Enter desired text by pressing the corresponding letters/numbers on the virtual keyboard.

5 Performing daily purging

5.1 Purging the print heads

Within the scope of the cleaning activities described in the separate service instructions for "Quadro printhead maintenance", you must carry out a short or long purging cycle. The following steps describe only the required activities in the software and at the cleaning access point.

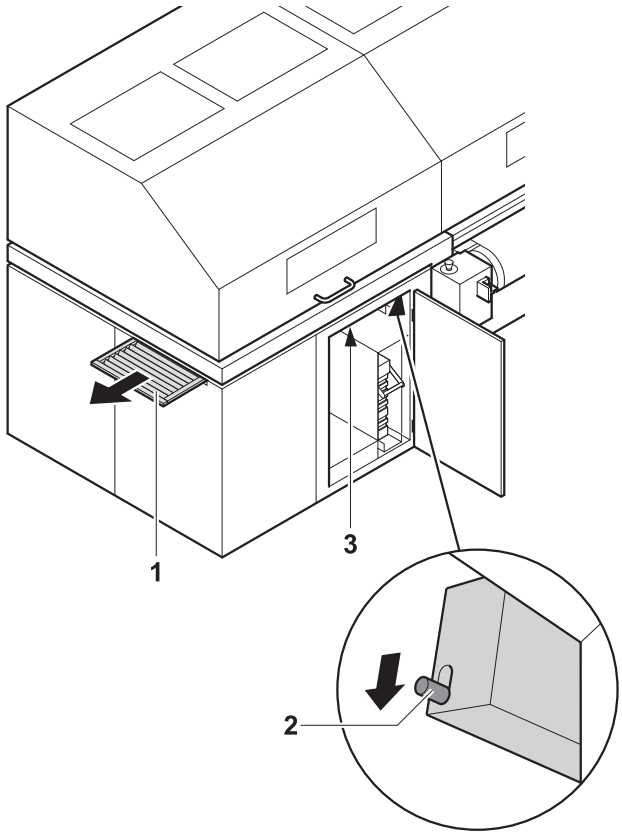


Fig. 14 Purging the print heads

✔ The printer is activated

1. Press **Maintenance** in the software.
2. Depending on what is required, press the button under **Purge Short** or **Long**.
3. Pull out the light trap carrier (1) until it stops.
4. Confirm in the software.
   - ↳ The printhead carriage moves over the catch tank.
   - ↳ Purging is started.
   - ↳ The ink is collected in the catch tank.
   - ↳ After purging, the printhead carriage moves into the park position.
5. As soon as a message is displayed in the software, press unlocking device (2) downward.
6. Pull out light trap carrier completely.

⚠ WARNING

Contact with ink!

Health hazard

- ► Wear protective gloves.
- ► Wear safety goggles.
- ► Avoid allowing ink to come into contact with skin and eyes.

NOTICE

Purging with unsuitable purging tools!

Damage to the print heads

- ► Purge print heads with the specified purging cloths and purging solution only.

7. Wipe all printheads at the cleaning access point according to the service instructions for "Quadro printhead maintenance" (→ Service Instructions "Quadro Print Head Maintenance").
8. Push in light trap carrier.
9. Press **Maintenance** > **Init Sledge** in the software to initialize the printhead carriage.
10. Print test pattern.

5.2 Cleaning conveyor belt

NOTICE

Cleaning the conveyor belt with unsuitable aids!

Damage to the conveyor belt

- ► Do not clean the conveyor belt with aggressive cleaning solutions.
- ► Remove soiling from the conveyor belt only by means of adhesive tape.

► Remove soiling from the conveyor belt by means of adhesive tape.

6 Heavy roll tool (optional)

6.1 Docking heavy roll tool

The unwinding unit is docked on the loading side, and the winding unit is docked on the unloading side in the same manner.

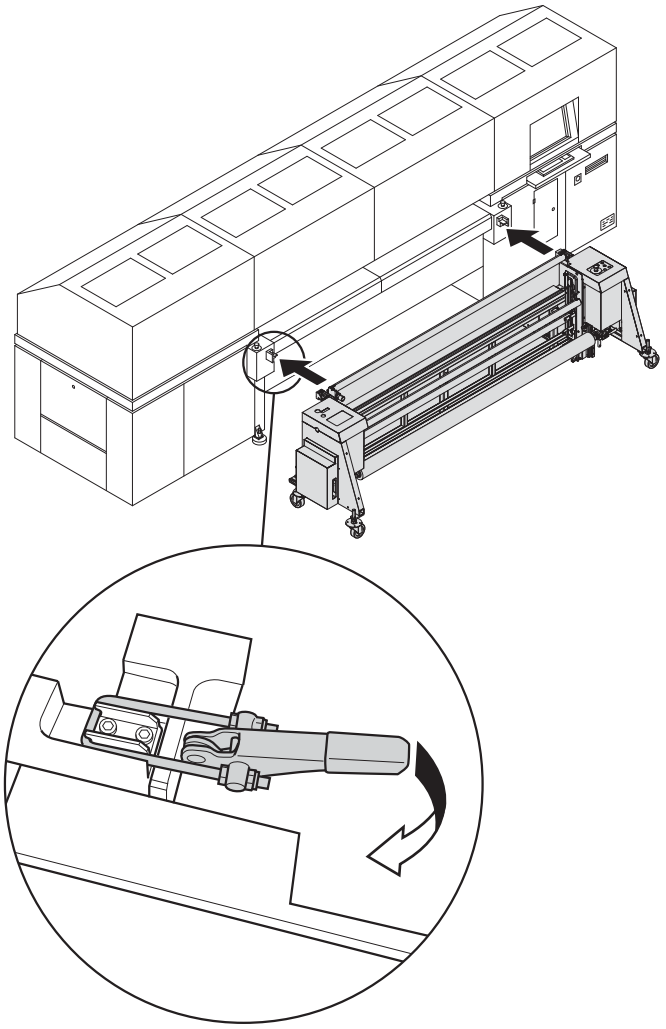


Fig. 15 Sliding the heavy roll tool into the guide and closing the clamping lock

1. Slide heavy roll tool into the guide of the printer.
2. Close clamping lock.

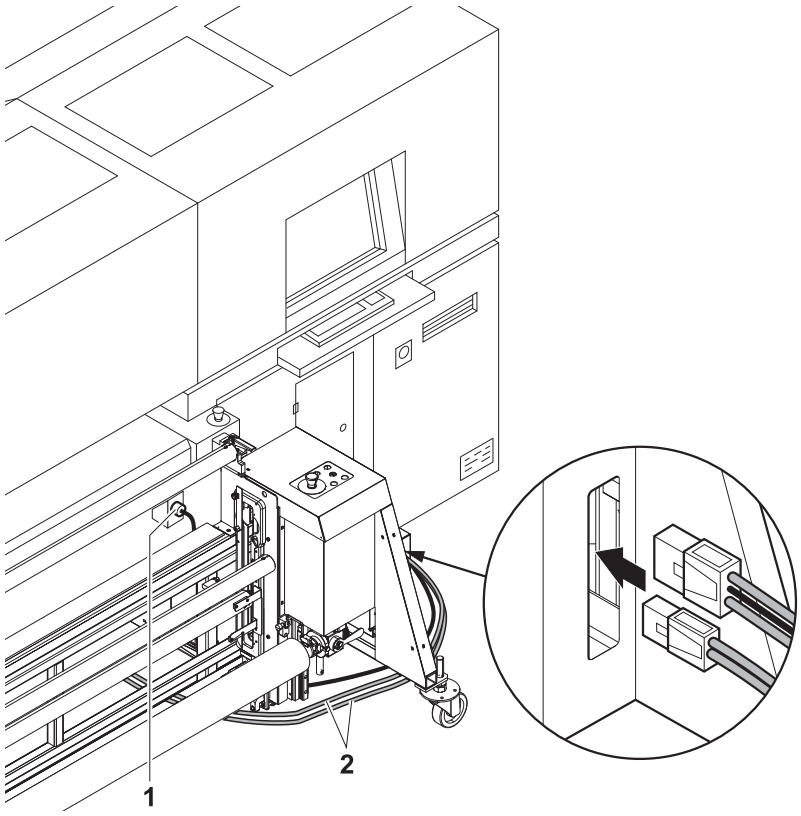


Fig. 16 Connecting the power and connecting cables

3. Connect power cable to the connector on the unwinding unit and to the connector on the printer (1).
4. Attach connecting cable (2) to the connectors on the unwinding and winding units.

6.2 Operating drives of the unwinding and winding units

The drives of the unwinding and winding units are operated at the operator panels, one of which is located on each of the right and left sides.

1 **UP**
2 **DOWN**
3 Selector switch
4 **REVERSE**
5 **FORWARD**

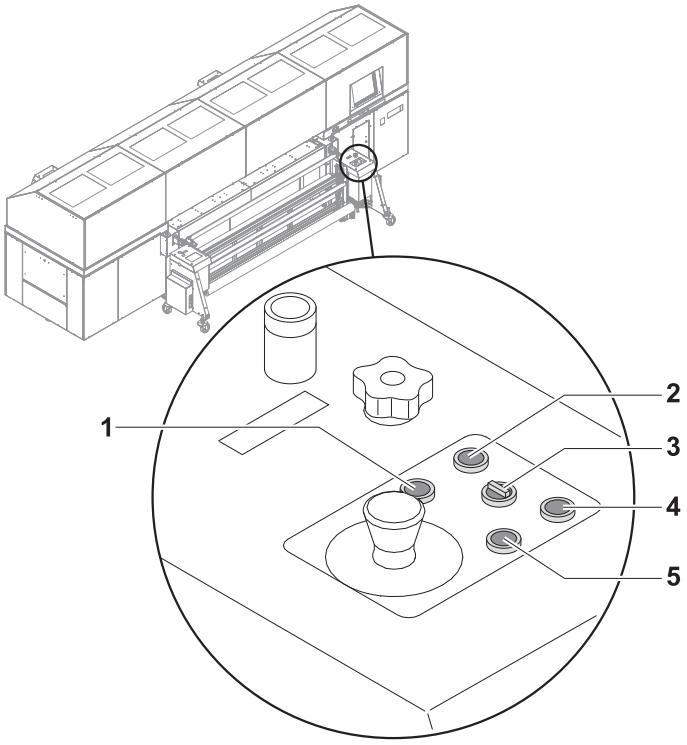


Fig. 17 Operator panel

6.2.1 Setting axis drives to automatic operation

► Depending on the desired rotation direction, set the selector switch to **Autom. Forward** or **Autom. Reverse**.

6.2.2 Rotating axis drives forward and in reverse manually

1. Set selector switch to **Manual**.
2. Press and hold the **FORWARD** or **REVERSE** button as long as desired.

6.2.3 Moving unwinding or winding unit up or down

► Press and hold the **UP** or **DOWN** button as long as desired.

7 Roller table (optional)

7.1 Docking the roller table

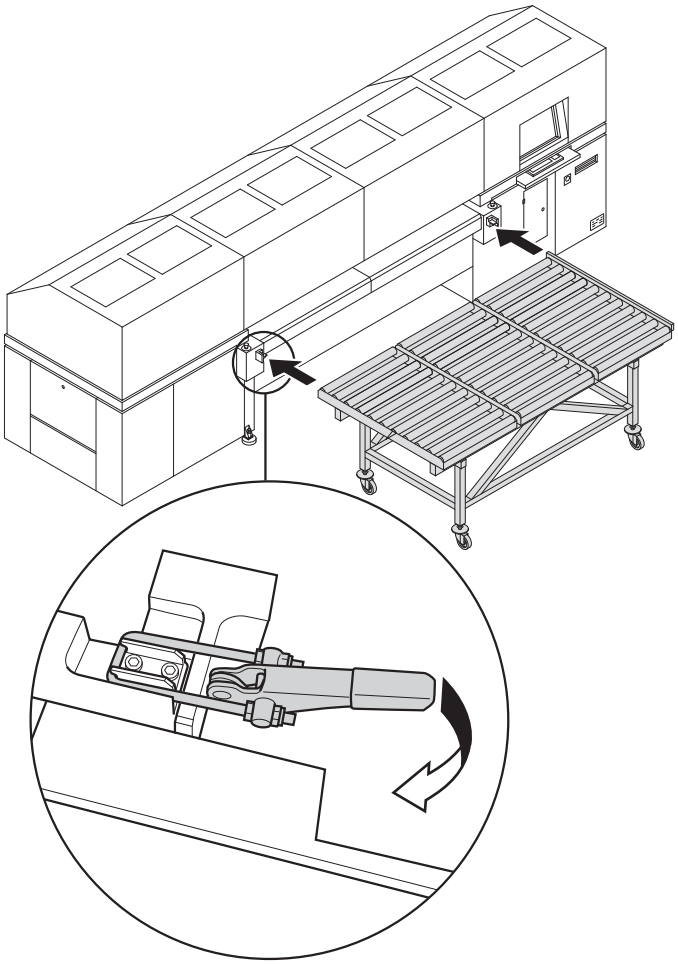


Fig. 18 Docking the roller table

1. Slide roller table into the guide mechanism of the printer.
2. Close clamping lock.

8 Loading medium

The medium can be loaded by one person. Two aids are available for aligning the medium:

- Optical sensor
- Mechanical front stop

The optical sensor is used to load thin, flexible media.

The mechanical front stop can only be used for stiff media that are at least 3 mm thick.

8.1 Loading plate medium

8.1.1 Loading a flexible medium using the optical sensor

1. Select the desired media channel in the software. Ensure that **Boards** is activated and **Mechanical Front Stop** is deactivated in the media channel (→ Page 56 / Managing media channels).

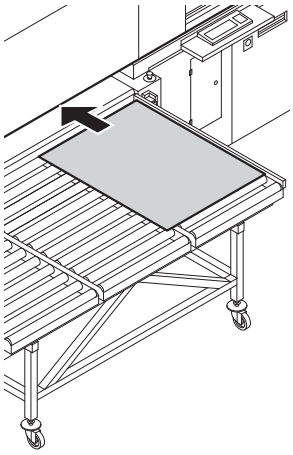


Fig. 19 Loading a medium using the optical sensor

2. Lay medium right-aligned on the conveyor belt and slide it into the printer.

   ↳ The optical sensor automatically recognizes the medium edge.

8.1.2 Loading a medium using the mechanical front stop

1. Select the desired media channel in the software. Ensure that **Boards** and **Mechanical Front Stop** are activated in the media channel (→ Page 56 / Managing media channels).

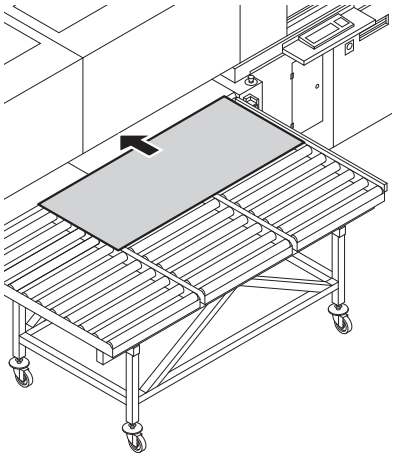


Fig. 20 Loading a medium using the mechanical front stop

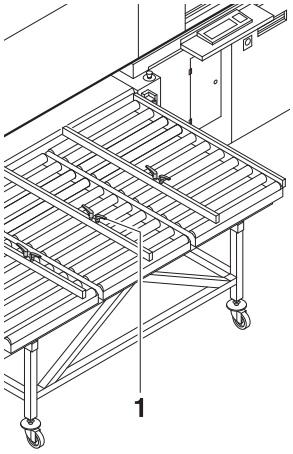
2. Lay medium right-aligned on the conveyor belt.

   ↳ An acoustic signal sounds as soon as the medium contacts the sensor of the mechanical stop.

8.1.3 Using roller table for serial printing (optional)

The medium must have the same size if several webs of medium are to be loaded side by side. The guide rails are used to guide the webs on the roller table. They have to be set to the medium width.

✔ The roller table is docked



1. Lay the desired number of guide rails (1) on the roller table so that exact guiding of the media webs can be ensured.
2. Fasten the guide rails using the screw lock.
3. Lay the desired number of media between the guide rails on the roller table.
4. Select the desired media channel in the software. Ensure that **Boards** and **Continuous Feeding** are activated in the media channel and that the number of webs is correctly defined (→ Page 56 / Managing media channels).

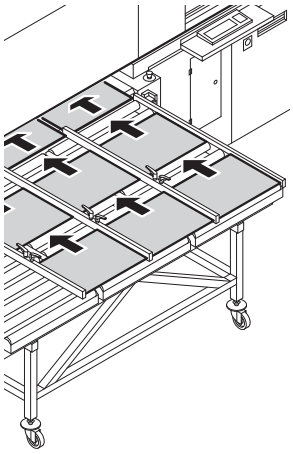


Fig. 21 Loading media

5. Lay further media on the roller table while the media are being drawn in.

   ↳ The media are transported automatically to the printer.

8.2 Loading roll medium

A roll medium is loaded in the following steps:

- Initializing loading procedure in the software
- Inserting roll medium on the loading side
- Inserting empty core on the unloading side
- Guiding roll medium through the printer
- Aligning the roll medium
- Setting the roll-end sensor
- Commissioning unwinding and winding units

8.2.1 Initializing loading procedure in the software

► Select the desired media channel in the software. Ensure that **Roll Media** and **Heavy Roll Tool** are activated in the media channel (→ Page 56 / Managing media channels).

8.2.2 Inserting roll medium on the loading side

1. Move unwinding unit to the bottom position.

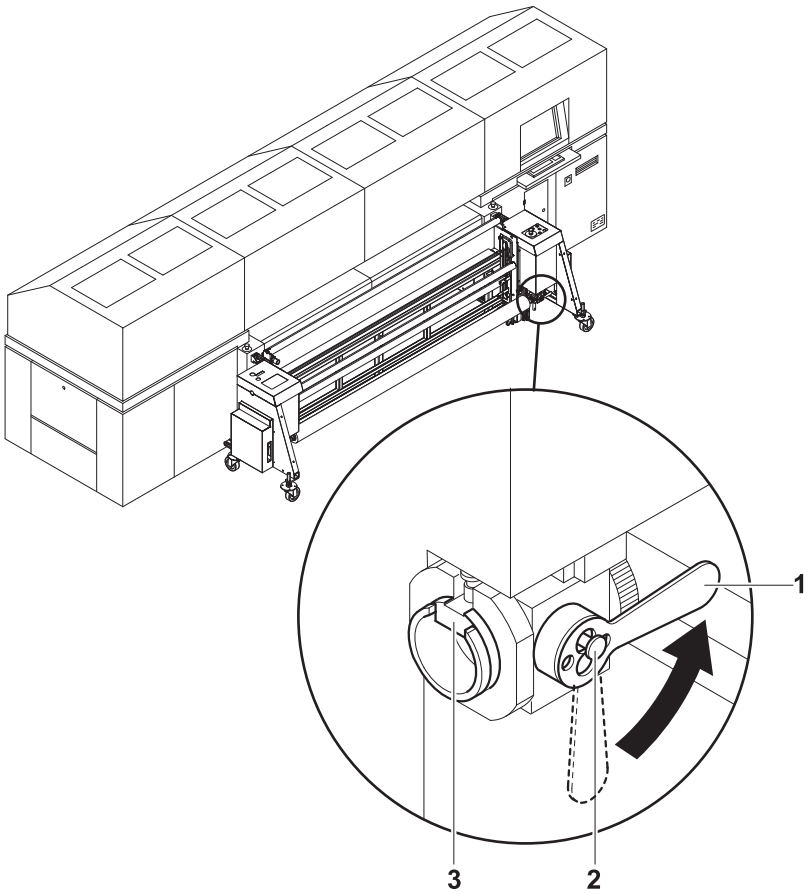


Fig. 22 Decouple roll mount from drive and rotate roll mount

2. Disengage locking button (2) for coupling.

3. Rotate lever (1) to the horizontal position to decouple the roll mount from the drive.
4. Turn roll mount manually until the groove (3) faces upward.

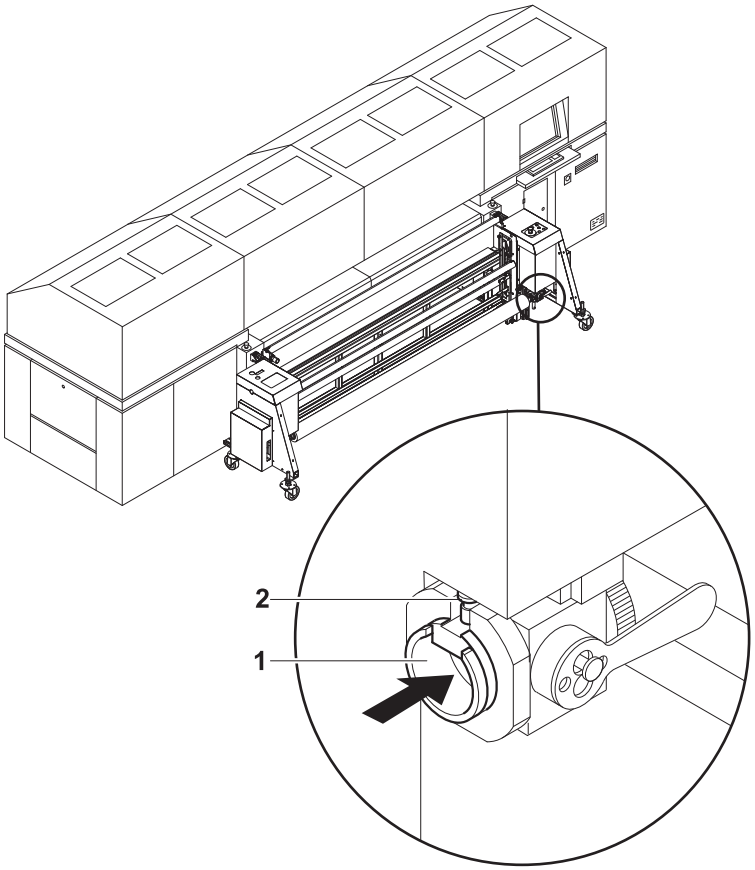


Fig. 23 Opening the groove

5. Open grooves of the right and left roll mounts in the following manner:
   – Disengage locking button (2).
   – Slide sliding ring in such a way (1) that the groove is exposed.

⚠ WARNING

High weight of the medium!

Danger of crushing when inserting the ends of the axes into the roll mount

► Wear protective gloves.

► When loading the roll, do not grip the ends of the axes.

6. Using a hand lift, position the roll with the axis in such a way that the axis ends are located above the grooves in the roll mounts.
7. Move unwinding unit to the top position. Allow the axis ends to slide into the grooves and take the roll upward.

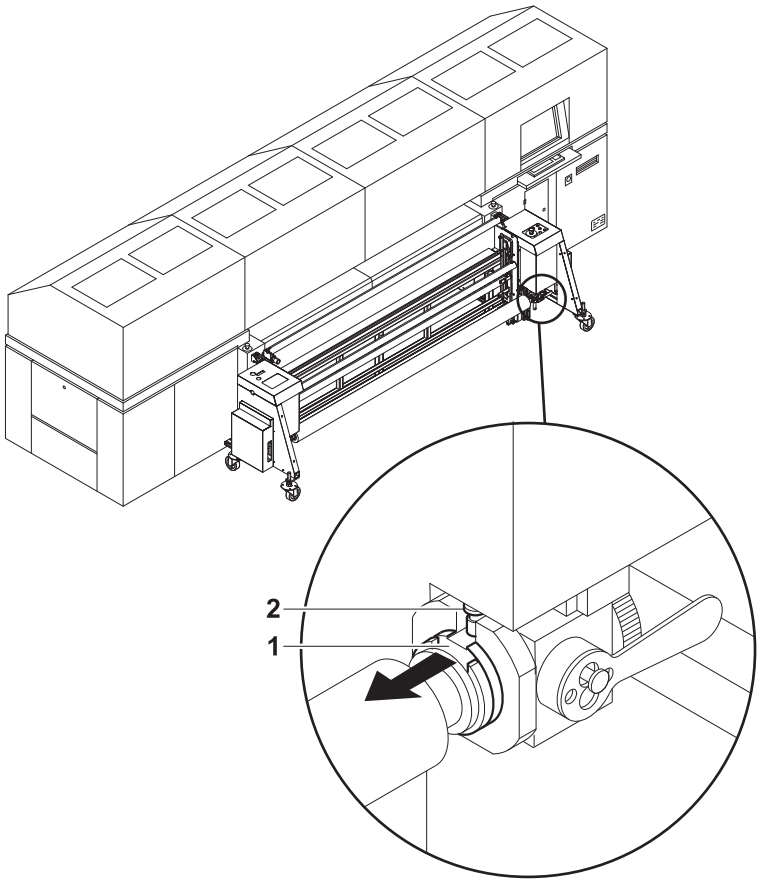


Fig. 24 Securing the axis with a sliding ring

8. Secure both axis ends as follows:
   – Disengage locking button (2).
   – Slide sliding ring (1) over the axis end.
   – Lock locking button.

8.2.3 Inserting empty core on the unloading side

► Insert empty core to wind up the roll medium in the same manner as the roll medium on the loading side.

8.2.4 Guiding roll medium through the printer

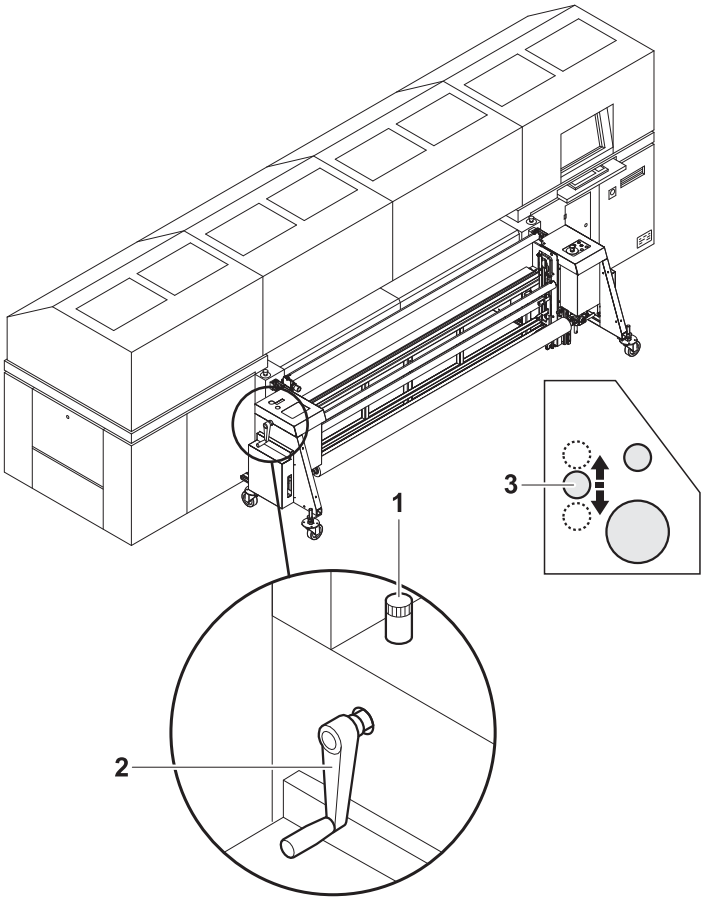


Fig. 25 Moving the tensioning roller upward (movement of the tensioning roller (3) shown schematically)

1. To make threading of the roll medium around the tensioning roller easier, carry out the following measures on the unloading and loading sides:
   – Loosen set screw (1).
   – Move tensioning roller (3) upward with crank (2).
   – Secure tensioning roller with set screw.

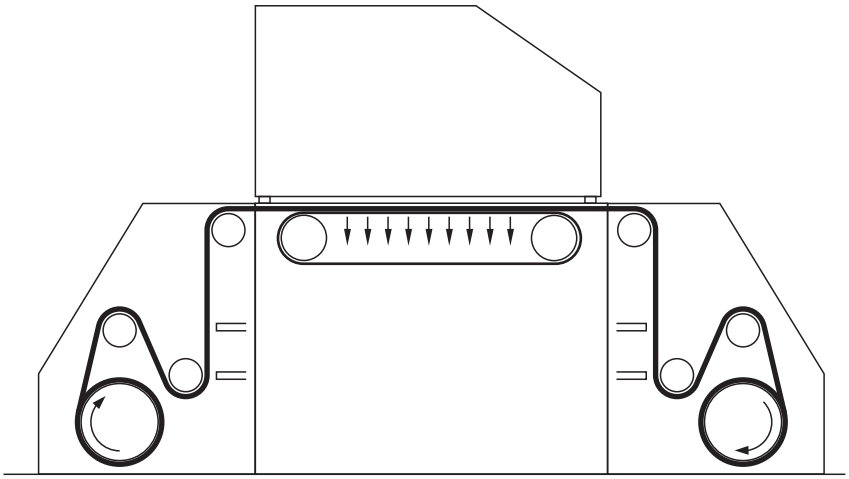


Fig. 26 Guide roll medium around tensioning roller and redirection rolls (shown here: schematically for front printing)

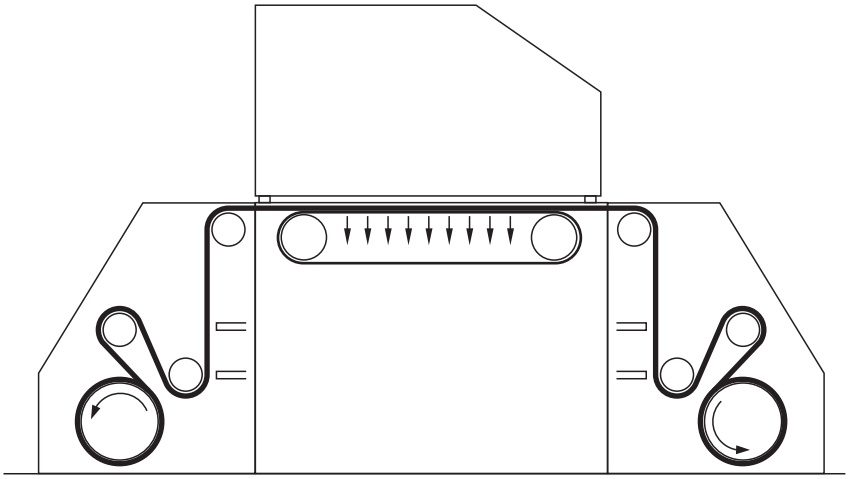


Fig. 27 Guide roll medium around tensioning roller and redirection rolls (shown here: schematically for back printing)

2. Guide roll medium around tensioning roller and redirection rolls.
3. Guide roll medium through the printer.
4. Guide the roll medium around the redirection rolls and tensioning roller in the same way at the winding unit and attach it to the empty core.
5. Return tensioning rollers to bottom position on unloading and loading sides.

8.2.5 Aligning the roll medium

Carry out the following measures on both the loading and unloading sides.

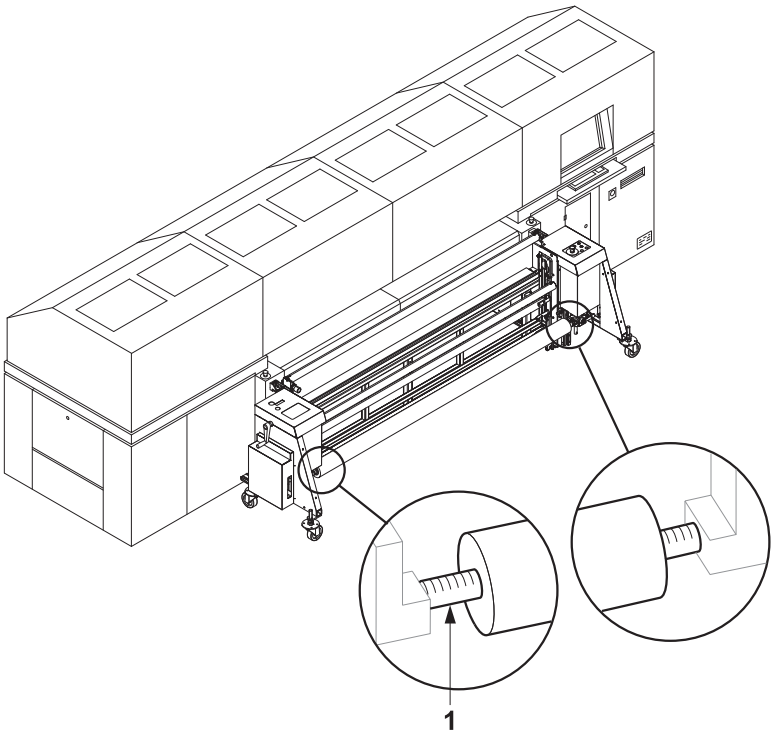


Fig. 28 Aligning the roll medium

1. Pre-position roll on the axis manually using the markings (1).

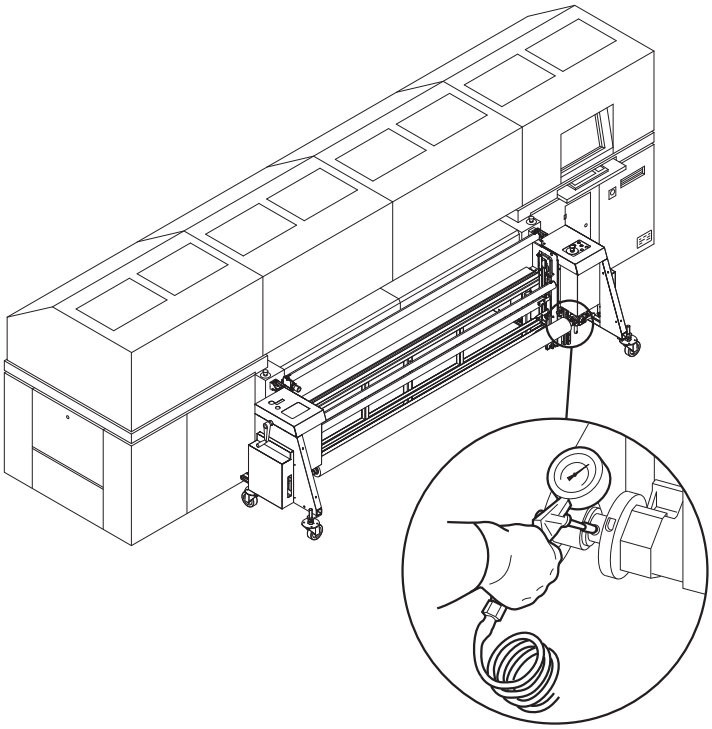


Fig. 29 Blowing compressed air into the valve

2. To secure the roll on the axis, place air blow gun on valve and fill compressed air into valve.

   ↳ The roll is secured to the axis via the locking jaws.

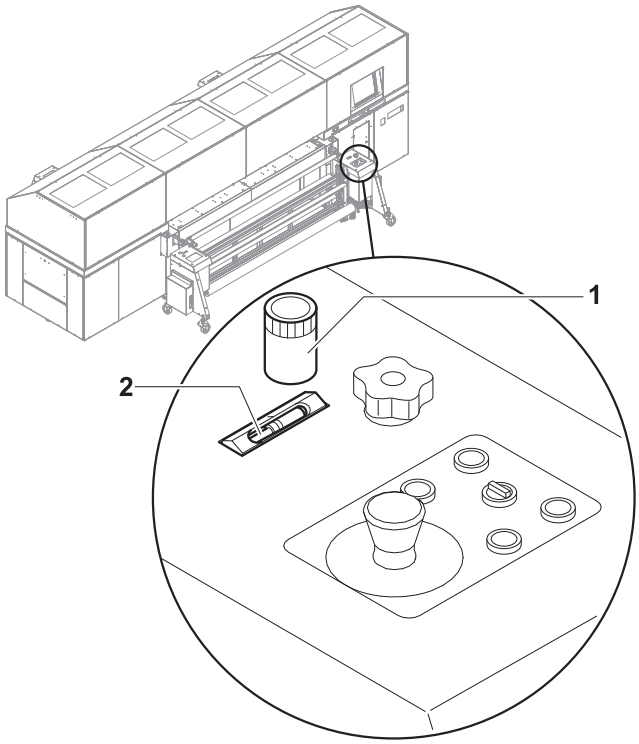


Fig. 30 Carrying out horizontal fine positioning

3. Using the controller (1), position the medium horizontally in such a way that it contacts the stop.

   ↳ The horizontal position is shown on the scale (2).

8.2.6 Setting the roll-end sensor

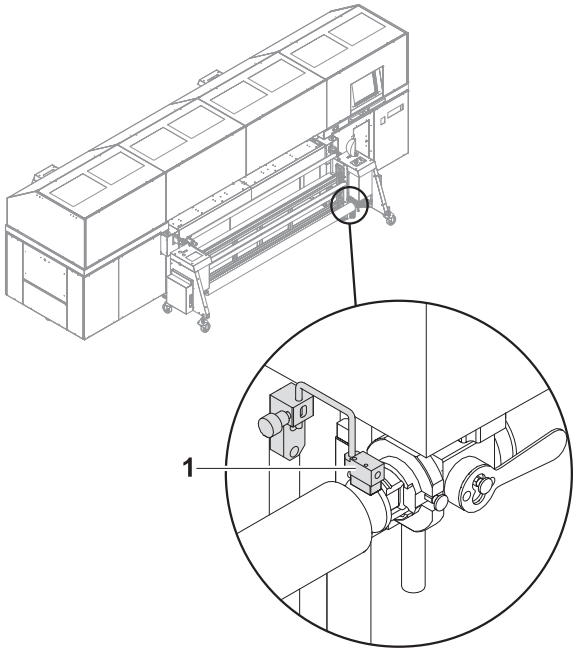
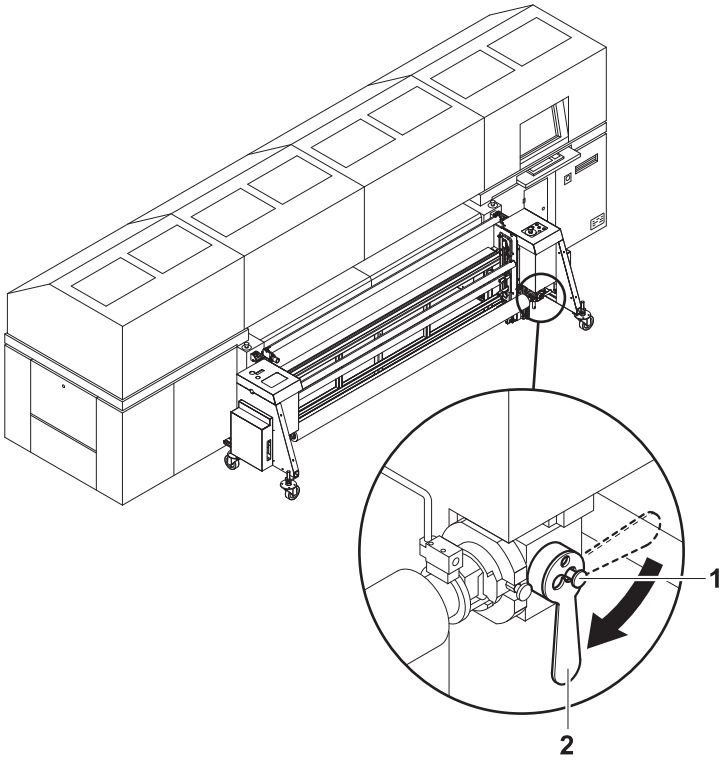


Fig. 31 Setting the roll-end sensor

► Set the roll-end sensor (1) on the unwinding unit to the desired height.

8.2.7 Commissioning unwinding and winding units

Carry out the following measures on both the loading and unloading sides.



1. Turn lever (2) down to the vertical position to couple the roll mount to the drive.
2. Engage locking button (1).
3. Set drive to automatic operation at the operator panel.

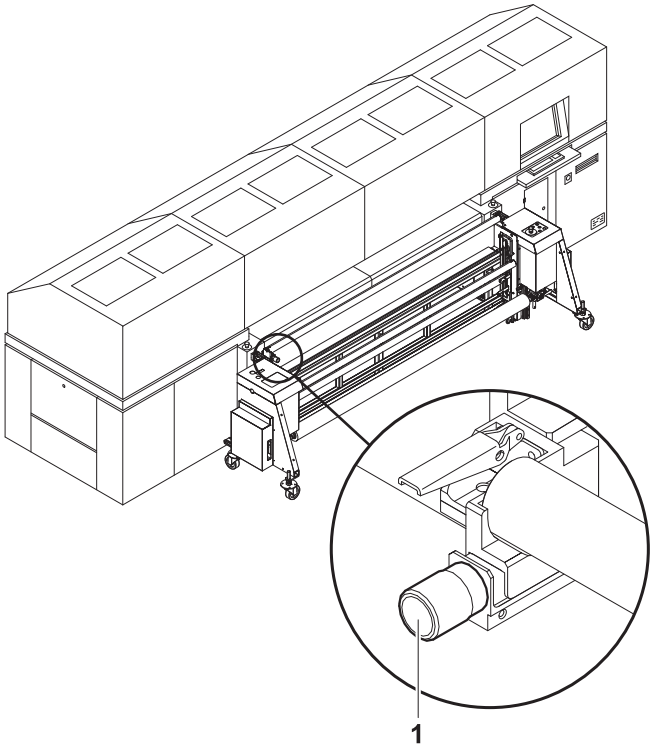


Fig. 32 Adjusting for straight running

4. If necessary, adjust the roll medium for straight running, e.g. if it is throwing folds, with the straight-running controller (1).

9 Setting up printer

9.1 Input queues

You can create, rename and delete input queues individually on the **Input Queue** tab.

1 Navigation window

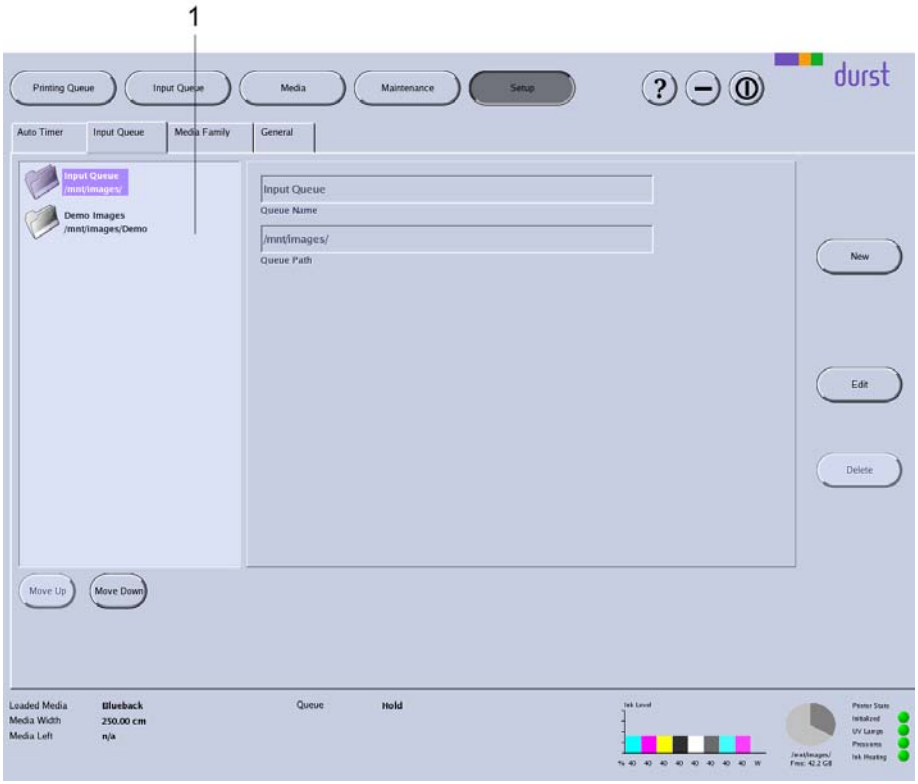


Fig. 33 **Input Queue** tab

The **Input Queue** is already created by default and cannot be deleted.

9.1.1 Editing input queues

Opening Input Queue tab

1. Press **Setup**.
2. Select the **Input Queue** tab.

Creating a new input queue

✔ The **Input Queue** tab is opened

1. Press **New**.
2. Enter a name in the **Queue Name** input field.
3. Enter the desired path in the **Queue Path** input field.
4. Press **Save**.

Renaming an input queue

✔ The **Input Queue** tab is opened

1. Select desired input queue in the navigation window.
2. Press **Edit**.
3. Change the name in the **Queue Name** input field.
4. Press **Save**.

Deleting an input queue

✔ The **Input Queue** tab is opened

1. Select desired input queue in the navigation window.
2. Press **Delete**.
3. Confirm with **Yes**.

9.2 Language and units of measurement

You define language and measurement units on the **General** tab:

Fig. 34 **General** tab

9.2.1 Setting language and units of measurement

Intended for future use.

9.3 Software validation

You enter the license number and the software options on the **General** tab:

Fig. 35 **General** tab

9.3.1 Entering license number and software options

Open General tab

1. Press **Setup**.
2. Select **General** tab.

Entering license number and software options

1. Press the **Edit** button under **Software Validation**.
2. Enter desired values.
3. Press **Save**.

9.4 Global encoder offset value

You enter the global value for the encoder offset value on the **General** tab:

Fig. 36 **General** tab

The global encoder offset value applies for all printing.

You can enter an additional encoder offset value for a special medium in the corresponding medium channel. The encoder offset value in the medium channel is then added to or subtracted from the global encoder offset value of the **General** tab.

9.4.1 Entering global encoder offset value

Open General tab

1. Press **Setup**.
2. Select **General** tab.

Entering encoder offset value

1. Press the **Edit** button under **Media Transport Options**.
2. Enter desired value.
3. Press **Save**.

9.5 Media families

As you must create separate media channels for the different medium thicknesses and blanks for each material, the number of media channels can become unclear very quickly. For this reason, you have the option of combining multiple media channels into a media family, e.g. KAPA or corrugated cardboard. Each media family is clearly identified by an ID number (**Family ID**). If a job is transferred from the RIP server to the **Input Queue** of the printer, it provides its ID number right away, thus indicating the media family to which it belongs. If you select the media channel for a job in the input queue, the software only offers you those media channels that are part of the media family of the job for pre-selection.

On the **Media Family** tab, you can create new media families and edit and delete existing media families.

1 Navigation window

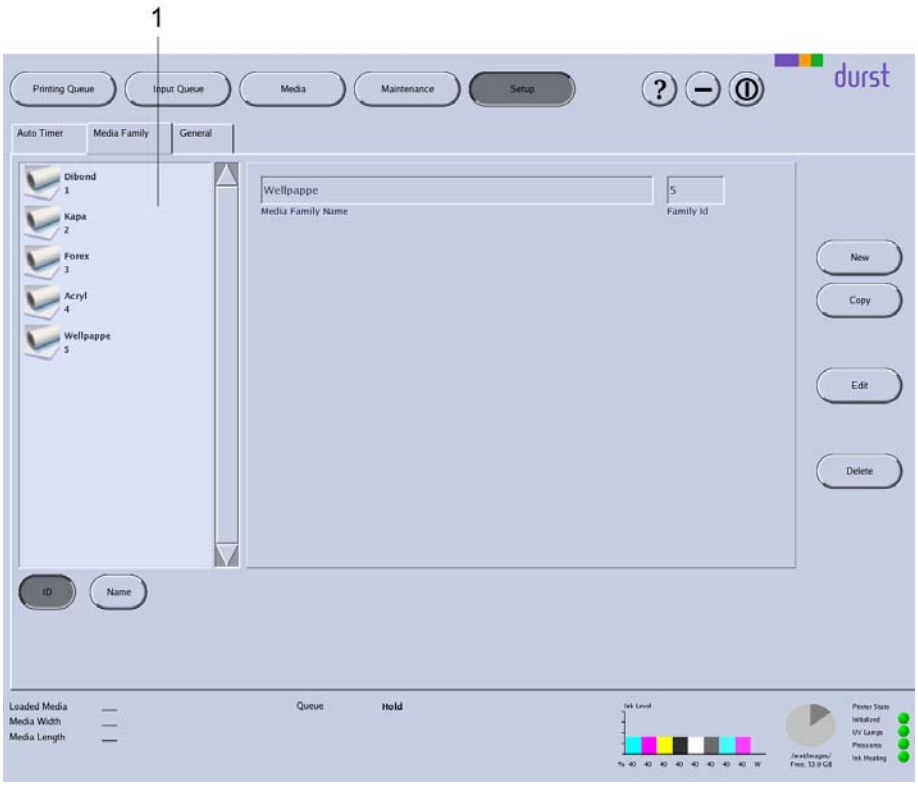


Fig. 37 **Media Family** dialog window

Navigation window All created media channels are listed in the navigation window (1). You specify the sorting order with the **ID** and **Name** buttons.

9.5.1 Buttons on the right edge of the dialog window

New A new media family is created with the **New** button.

Copy You copy the selected media family and save it with a new name with the the **Copy** button.

Edit Parameters of the selected media family are modified with the **Edit** button.

Delete The selected media family is deleted with the **Delete** button.

9.5.2 Managing media families

Open Media Family tab

1. Press **Setup**.
2. Select **Media Family** tab.

Creating new media family

✔ The **Media Family** tab is open

1. To create a media family with completely new data, carry out the following procedure:
   – Press **New**.
   – Enter all desired values.
2. To create a new media family based on an existing media family, carry out the following procedure:
   – Select desired existing media family in the navigation window.
   – Press **Copy**.
   – Modify desired parameters.
   – Rename media family if necessary.
3. Press **Save**.

Deleting media family

✔ The **Media Family** tab is open

1. Select desired media family in the navigation window.
2. Press **Delete**.

10 Operating printer functions

On the **Printer** tab, you can operate the following functions, among others:

- Initialization
- Purging
- Test print
- UV lamps
- Software version display
- Encoder test
- Medium advance
- Ink heating

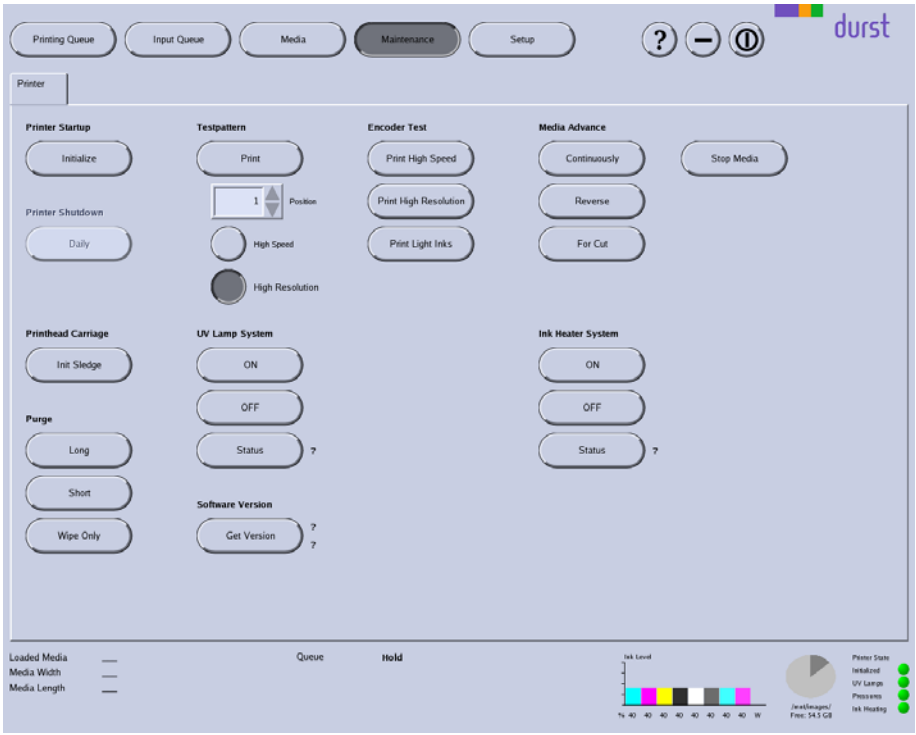


Fig. 38 **Printer** tab

Printer Startup All units of the printer move to the reference position. This option is recommended if the printer was switched on manually.

Printer Shutdown Intended for future use.

Printhead Carriage The printhead carriage is initialized

Testpattern **Print**: The **Print** button initiates the printing of a test pattern, which can be optimized either for high print speed (**High Speed**) or high resolution (**High Resolution**). The test pattern is not placed in the **Printing Queue**, rather it is printed immediately.

Position: Plate media can be printed with test patterns multiple times. Using the **Position** selection list, you specify the image line on which the respective test pattern is to be printed by repeatedly loading the medium. The software calculates the required advance automatically.

Encoder test You can print an encoder test image with the desired quality with the buttons under **Encoder Test**. When pressing the corresponding button, the encoder test image is transferred directly to the **Printing Queue**.

Position: Plate media can be printed with encoder test images multiple times. Using the **Position** selection list, you specify the image line on which the respective encoder test image is to be printed by repeatedly loading the medium. The software calculates the required advance automatically.

Media Advance You control the manual advance of the medium with this option.

Continuously: The medium is transported further until you press **Stop Media**.

Reverse: The medium is transported in reverse until you press **Stop Media**.

For Cut: The medium is transported further until you can cut it.

Stop Media: The feed (**Continuously** or **Reverse**) is stopped.

10.1 Procedure

1. Press **Maintenance**.
2. Initiate desired function by pressing the appropriate button.

11 Managing media channels

You create new media channels and edit or delete existing media channels on the tab under the **Media** button.

1 Navigation window

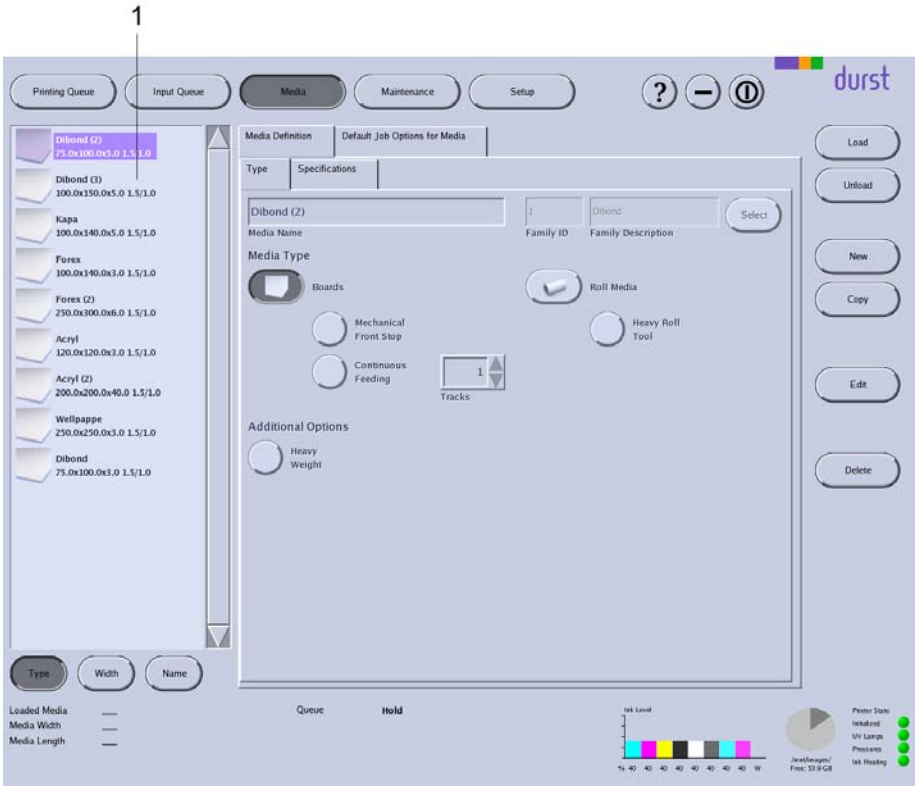


Fig. 39 Tabs under the **Media** button.

All created media channels are listed in the navigation window (1). You specify the sorting order with the **Type**, **Width** and **Name** buttons.

11.1 Buttons on the right edge of the dialog window

Load/Unload The loading and unloading procedures for changing the media channel are triggered with the **Load** and **Unload** buttons.

New A new media channel is created with the **New** button.

Copy You copy the selected media channel and save it with a new name with the the **Copy** button.

Edit Parameters of the selected media channel are modified with the **Edit** button.

Delete The selected media channel is deleted with the **Delete** button.

11.2 Medium type

You can define the following parameters on the **Type** sub-tab:

- Name
- Media family
- Type: plate or roll medium

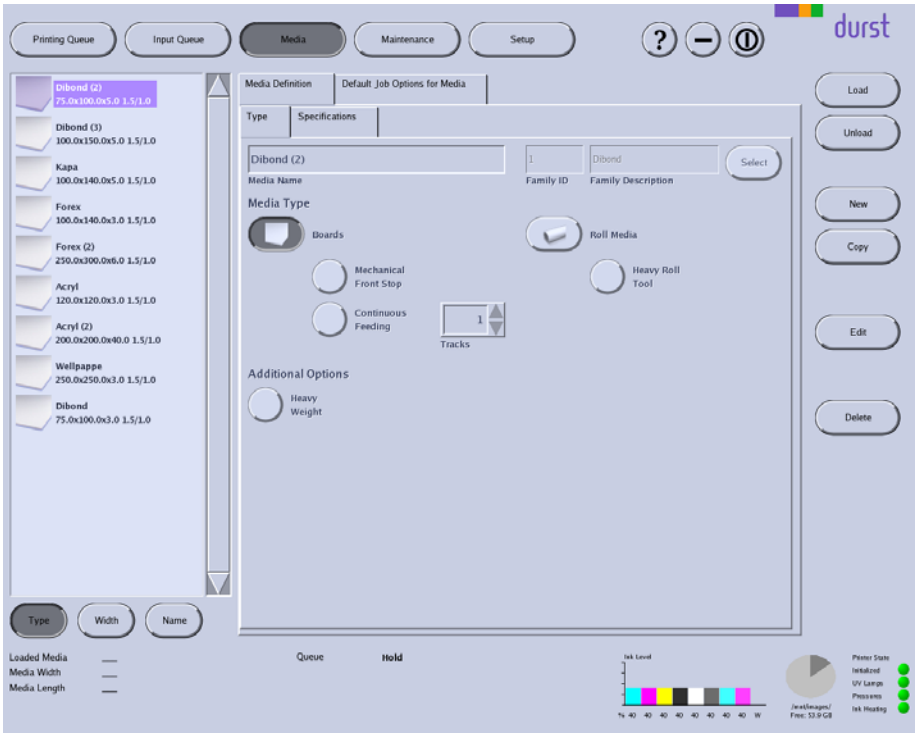


Fig. 40 **Type** sub-tab

Mechanical Front Stop By default, the printer uses the optical sensor to align the medium. You press the **Mechanical Front Stop** when you want to use the mechanical front stop.

Continuous Feeding You press the **Continuous Feeding** button if you use the roller table for serial printing. This allows you to print plate media continuously without having to reload each plate medium. This function only works if the mechanical front stop (**Mechanical Front Stop**) has been activated.

Heavy Roll Tool You press the **Heavy Roll Tool** button if you use the heavy roll tool.

Additional Options When printing heavy media, striping may occur due to slippage between the medium and the conveyor belt. You can minimize slippage with the **Heavy Weight** button.

11.3 Media specification

You can define the following parameters on the **Specifications** sub-tab:

- Dimensions
- Distances
- Parameters for media transport
- UV drying

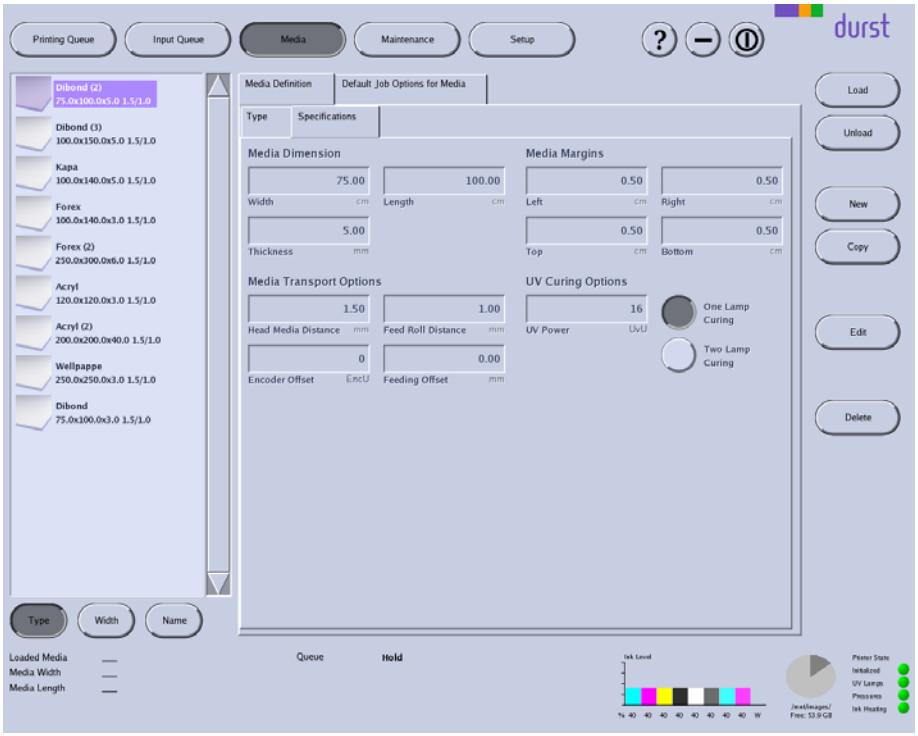


Fig. 41 **Specifications** sub-tab

Media Margins

In the input fields under **Media Margins**, you define the printable area of the medium by entering left, right, top or bottom medium borders (**Left**, **Right**, **Top**, **Bottom**).

UV Curing Options

Under **UV Curing Options**, you set the power and number of UV lamps for curing the printed medium. We recommend setting the power as low as necessary. In most cases, one UV lamp is sufficient for this reason.

If the power level is too high, sensitive media can yellow or stretch. For this reason, it may be necessary to not carry out full curing so as to protect the medium.

In special cases, such as when printing glass, you will require more power. In such cases, it makes sense to increase the power level and work with two UV lamps.

Media Transport Options

Encoder Offset: If the advance causes striping during printing, you can enter an encoder offset value. This value is added to or subtracted from the global encoder offset value (**General** tab).

Feed Roll Distance: You can change the contact pressure on the medium via the spacing of the transport rollers. With a value of "0", the contact pressure is at its maximum.

Feeding Offset: If you are loading a flexible medium with rounded corners, the optical sensor may detect the edge of the medium too late. This will result in a printing offset. You can compensate for this offset by entering a correction value.

11.4 Print options

You can define the following parameters, among others, on the **Print Options** sub-tab:

- Print Quality
- Print Direction
- Print Finishing
- Print Refinement and Special Effects
- Spot Colors
- Curing Delay

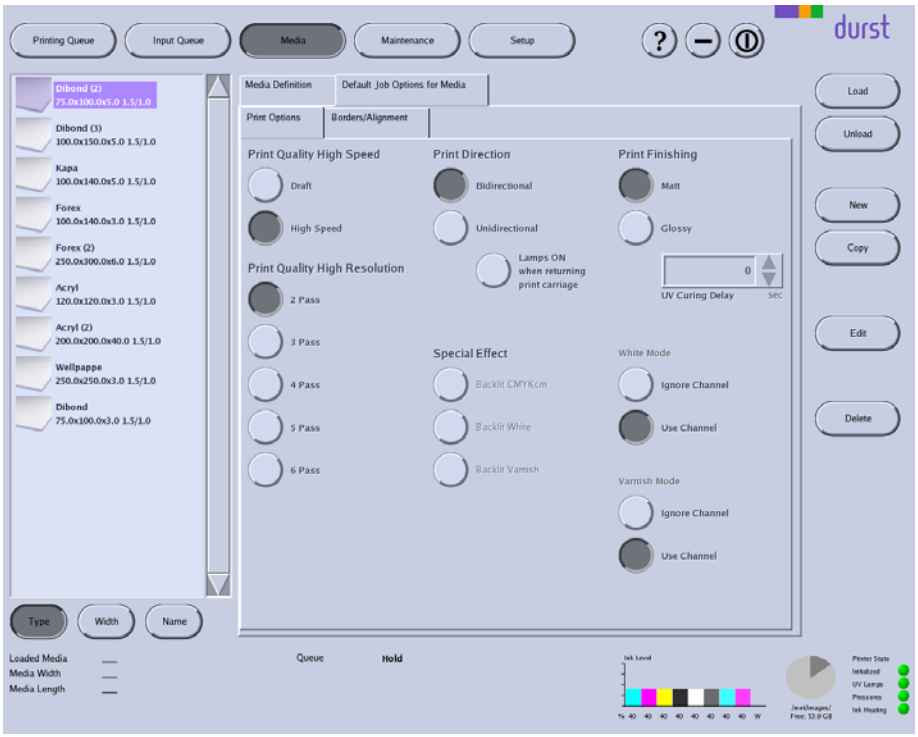


Fig. 42 **Print Options** sub-tab

Print Direction

Bidirectional: The ink is applied in both directions when the printhead carriage moves. This increases print speed.

Unidirectional: The ink is only applied by the printhead carriage upon its outward traversal.

Lamps ON when returning print carriage: This option is recommended if you have selected the **Unidirectional** option and are printing a slowly-drying medium.

White Mode/Varnish Mode If the spot color white or an opaque ink for a shiny surface was created as its own channel during image processing, you can control the processing of the spot color individually.

Ignore Channel: The spot color is ignored.

Use Channel: The spot color is printed via a separate color channel. The ink supply for this color channel comes from an additional ink tank for the spot color.

11.5 Image border and alignment

You can define the following parameters, among others, on the **Borders/Alignment** sub-tab:

- Border distances
- Alignment
- Oversize

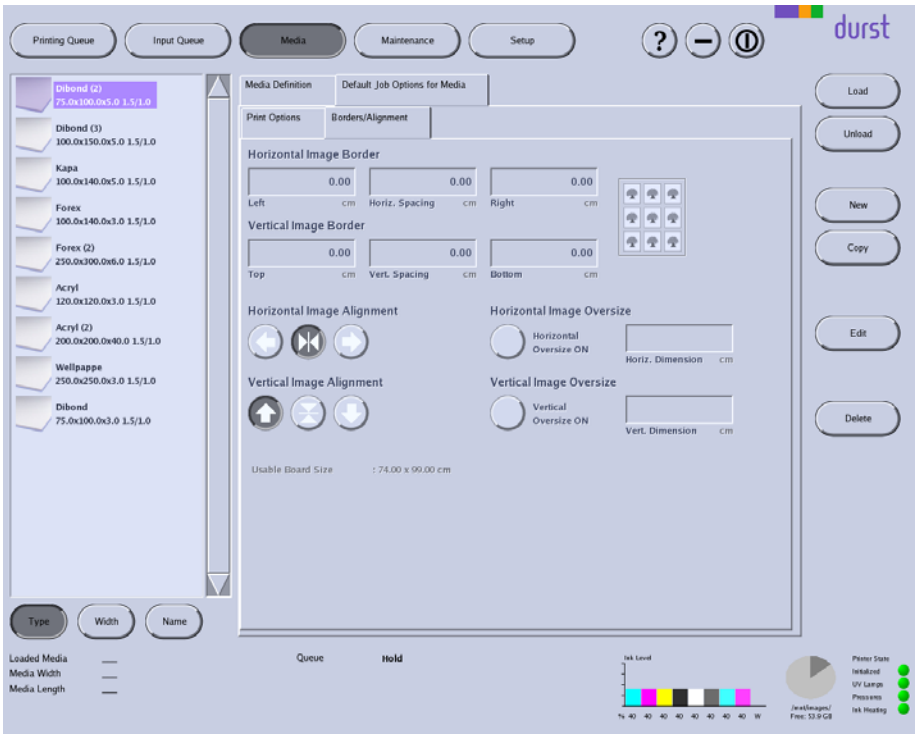


Fig. 43 **Borders/Alignment** sub-tab

Image Border Under **Horizontal Image Border** and **Vertical Image Border**, you can enter an image spacing between the individual images and to the left or right border of the printable area.

In the input fields **Left**, **Right**, **Top** and **Bottom**, you enter the respective image borders to the left, right, top and bottom borders of the printable area. The printable area is defined by the medium borders you entered on the **Specifications** tab under **Media Margins**.

The total spacing of the image, for example to the left medium edge, is the sum of the left media border (**Left** from **Media Margins**) and the left image border (Left from **Horizontal Image Border**).

1 Left image border
2 Medium border
3 Image

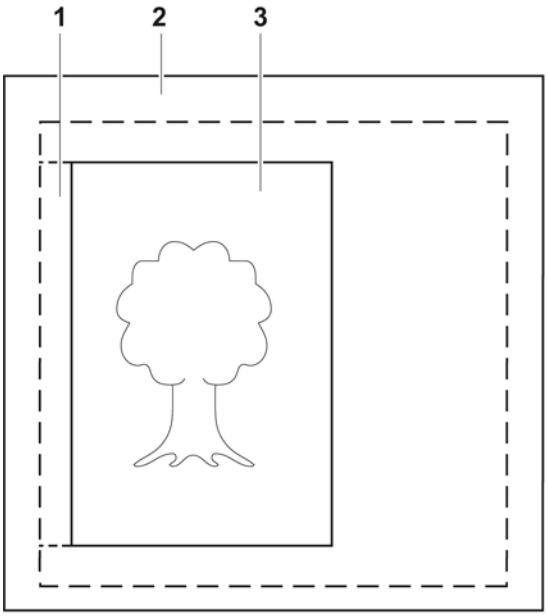


Fig. 44 Borders (schematic example)

In the **Horiz**. **Spacing** and **Vert**. **Spacing** input fields, always enter the horizontal or vertical spacing between the images.

Image Alignment

Using the buttons under **Horizontal Image Alignment** and **Vertical Image Alignment**, you can align the image on the medium vertically (top, bottom, centered) and horizontally (left, right, centered). Here, the image and its defined image border (**Horizontal Image Border** or **Vertical Image Border**) are considered to be a unit and are aligned as one.

1 Medium
2 Top image border
3 Image
4 Image and image border unit
5 Vertical centering axis

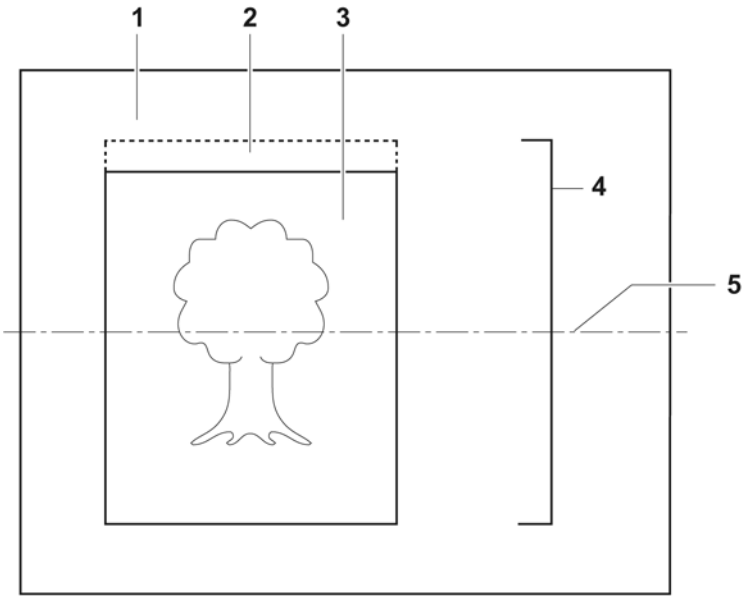


Fig. 45 Alignment of image with image border (schematic example for centered alignment)

Image oversize

To ensure that the medium is printed up to the edge, you can enter an oversize for overprinting under **Horizontal Image Oversize** and **Vertical Image Oversize**. The software then clones the pixels at the image border and inserts them at the border according to the oversize. Here, printing occurs in the image border, image spacing or medium border by the oversize value.

1 Oversize
2 Medium border
3 Image
4 Image spacing

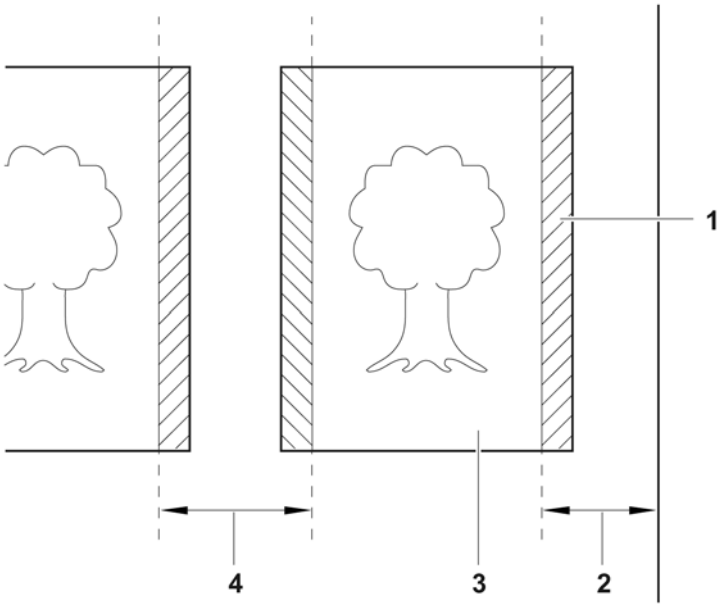


Fig. 46 Overprinting with images with borders (schematic example)

11.6 Creating, editing and deleting media channels

11.6.1 Creating new media channel

1. Press **Media**.
2. To create a media channel with completely new data, carry out the following procedure:
   – Press **New**.
   – Select **Media Definition** tab.
   – Select **Type** sub-tab.
   – Enter a name in the **Media Name** input field.
   – Press **Select**.
   – Select media family.
   – Edit other media parameters.
3. To create a new media channel based on an existing media channel, carry out the following procedure:
   – Select desired existing media channel in the navigation window.
   – Press **Copy**.
   – Modify desired parameters.
   – Rename media channel if necessary.
   – Edit other media parameters.
4. Press **Save**.

11.6.2 Editing existing media channel

1. Press **Media**.

2. Select desired media channel in the navigation window.
3. Select desired tab or sub-tab.
4. Press **Edit**.
5. Edit desired parameters.
6. Press **Save**.

11.6.3 Deleting media channel

1. Press **Media**.
2. Select desired media channel in the navigation window.
3. Press **Delete**.

11.6.4 Loading/unloading media channel

✔ The media channel is created

1. Press **Media**.
2. Select desired media channel in the navigation window.
3. Press **Load**/**Unload**.

12 Printing

Once the job has been prepared on the RIP server and transferred to the workstation of the printer, printing occurs in the following steps:

- Prepare job in the input queue (→ Page 63 / Input queue)
- Transfer job to the **Printing Queue** (→ Page 63 / Input queue)
- Control printing process in the **Printing Queue** (→ Page 67 / **Printing Queue**)

12.1 Input queue

You prepare jobs for printing in the input queue. As soon as a job is transferred from the RIP server to the workstation, it appears in the input queue.

You define the printing parameters on the **Basics**, **Print Options**, **Borders/Alignment** and **Size** sub-tabs.

1 Navigation window

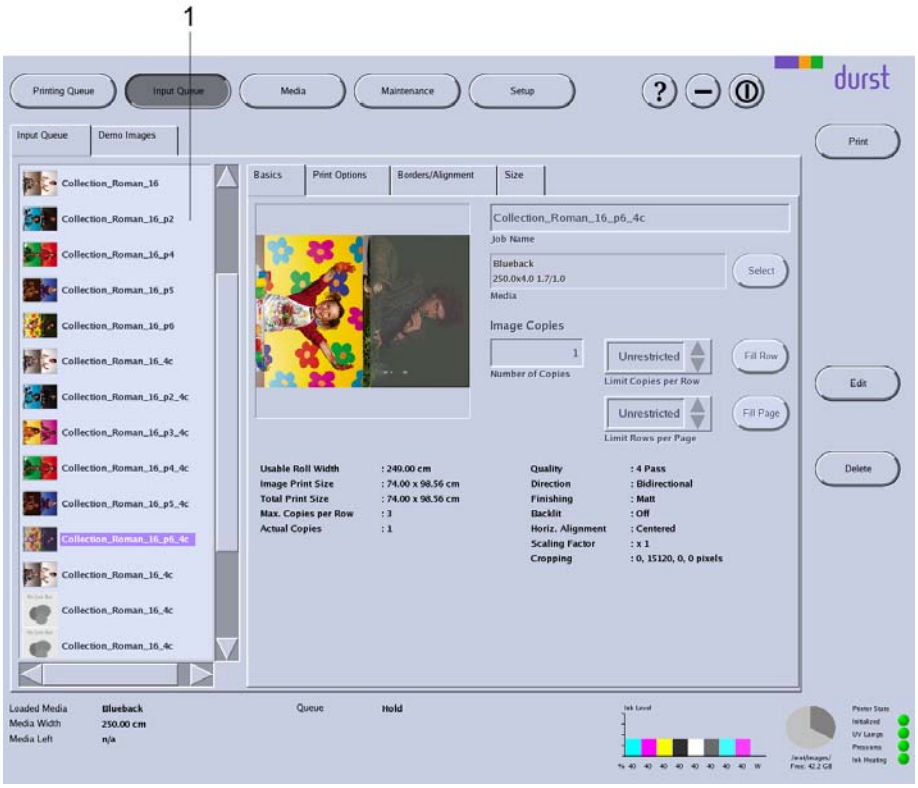


Fig. 47 Input queue

Navigation window Jobs intended for preparation are displayed in the navigation window (1).

Sub-tabs The **Print Options** and **Borders/Alignment** sub-tabs correspond to the sub-tabs on the **Media** tab (→ Page 56 / Managing media channels). You can modify the preset parameters for a job separately under **Media** on this sub-tab.

12.1.1 Default jobs

You can define the following basic settings on the **Basics** sub-tab:

- Job name
- Media channel
- Number of copies
- Maximum number of images in a row and rows per page

Fig. 48 **Basics** sub-tab

If you want to select a media channel (list field via **Media**), the software only offers you those media channels that are part of the media family of the job for pre-selection.

12.1.2 Image crop

You can change the image crop of the ripped image on the **Size** sub-tab.

1 Sliders

Fig. 49 **Size** sub-tab

To select an image crop, you can define how much is to be cut away from the respective image border. You have the following options here:

- Enter the desired number of pixels or select it with the arrow keys under **Image Crop** in the respective input fields **Left**, **Right**, **Top** and **Bottom**.
- Select the crop with the sliders (1).

If you want to move a selected image crop while maintaining the height/width, you can lock the height/width with the  button.

Crop To Board With the **Crop To Board** button, you crop an image starting from the top-left corner automatically and precisely to the size of the plate medium. The requirement here is that the image is larger than the plate medium.

Image Scale You scale the image with the buttons under **Image Scale**.

12.1.3 Preparing a job and transferring it to the Printing Queue

Preparing a job

1. Press **Input Queue**.
2. Select desired job in the navigation window.

3. Select the desired sub-tab: **Basics**, **Print Options**, **Borders/Alignment** or **Size**.
4. Modify desired parameters.
5. Press **Save**.

Transferring jobs to Printing Queue

✔ The job is prepared

1. Select job in the navigation window.
2. Press **Print**.

↳ The job appears in the **Printing Queue**.

12.2 Printing Queue

The **Printing Queue** dialog window shows all the jobs which have been transferred from the input queue for printing. You can change the order of jobs in the queue, delete jobs from the queue and initiate the printing process here.

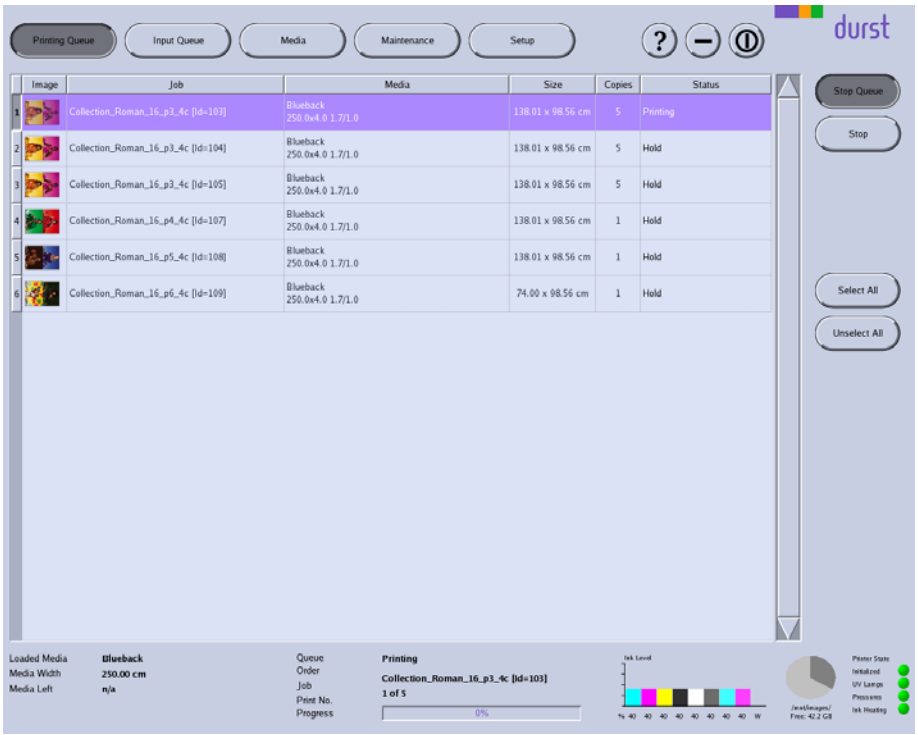


Fig. 50 **Printing Queue** dialog window

Start Queue The printing process is started for the selected job with the **Start Queue** button.

Push on Top The selected job is moved to the front of the queue with the **Push on Top** button.

12.2.1 Controlling a printing process in the Printing Queue

✔ If printing occurs over the edge of the medium, the conveyor belt is taped at the edges of the medium.

1. Press **Printing Queue**.

   ↳ The **Printing Queue** dialog window appears.

   ↳ All jobs in line for printing are displayed in the queue.

2. To print a job, proceed as follows:
   – Select desired job.
   – Press **Start Queue**.

   ↳ The current print status is displayed on the status line.

F Service

1 Safety

1.1 First aid in case ink contacts skin and eyes

1. Wash affected areas with pH-neutral soap and water. Under no circumstances should solvents be used, as they remove oils from the skin and increase irritation.
2. Change your clothes immediately if heavy contamination has occurred.
3. If some spray has entered your eyes, wash your eyes immediately with lots water and contact a doctor.

2 Inspection and purging intervals

When?	What?
Daily	► Check condition of the encoder ruler and have it purged by Durst service technicians if heavily soiled. ► Check covers visually. ► Purge print heads (→ Page 31 / Purging the print heads).
Weekly	► Clean printing plate (→ Service Instructions "Quadro Print Head Maintenance").
Monthly	► Check air filter of UV lamps and change if necessary (→ Page 74 / Checking and replacing air filter). ► Clean exhaust grate.
Annually	► Have print heads checked and, if necessary, adjusted by Durst service technicians.
If necessary	► Clean housing of the printer (→ Page 77 / Cleaning housing). ► Remove leaked ink. ► Clean conveyor belt (→ Page 33 / Cleaning conveyor belt).
In case of fault or defect	► Check fuses and, if necessary, have replaced by Durst service technicians (→ Page 77 / Checking fuses). ► Replace UV lamps (→ Page 78 / Replacing UV lamps).

3 Activities

3.1 Initialization after closing the flip doors

Once you have closed the flip doors after service work, you must reinitialize the printhead carriage.

✔ The flip doors are closed

► Initialize printhead carriage in the software (→ Page 54 / Operating printer functions).

3.2 Emptying the catch tank

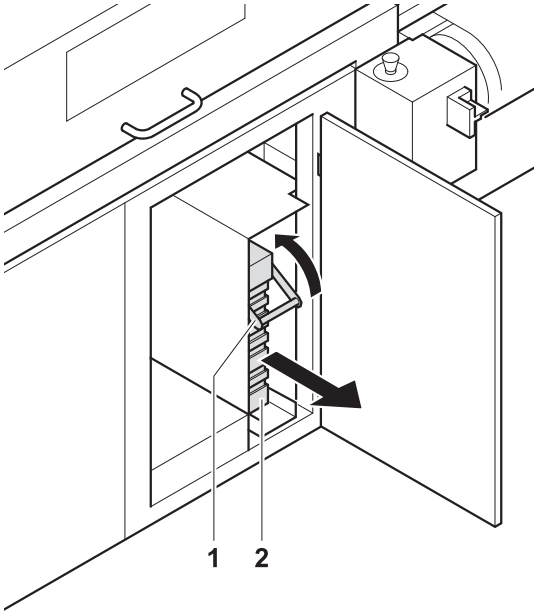


Fig. 51 Emptying the catch tank

⚠ WARNING

Contact with ink!

Contact with skin or breathing in fumes poses health risk

► Wear protective gloves.

► Wear safety goggles.

► Avoid allowing ink to come into contact with skin and eyes.

► Do not use inks containing solvents.

1. Open door.
2. Slide handle upwards using the grip (1).
3. Pull out catch tank (2).
4. Remove and empty catch tank.
5. Replace empty catch tank in its original position.
6. Slide handle downwards using the grip.

7. Close door.

3.3 Refilling ink

Refilling involves the following procedure:

- Placing Cubitainer into the loading compartment
- Starting refilling procedure

⚠ WARNING

Contact with ink!

Contact with skin or breathing in fumes poses health risk

► Wear protective gloves.
► Wear safety goggles.
► Avoid allowing ink to come into contact with skin and eyes.
► Do not use inks containing solvents.

NOTICE

Unsuitable ink!

Damage to the print heads

► Use only Durst inks (→ Page 87 / Addresses).

Placing Cubitainer into the loading compartment

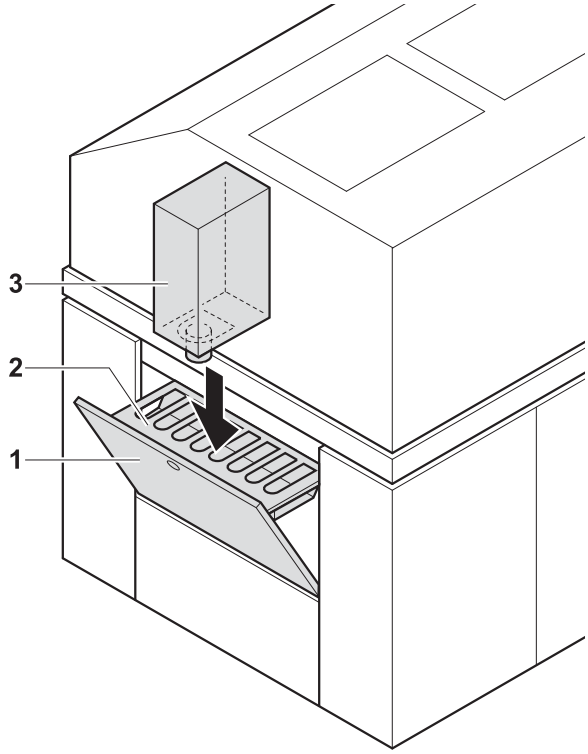


Fig. 52 Placing Cubitainer into the loading compartment

1. Pull out cover (1) of the loading compartment (2).
2. Prepare Cubitainer (3) for the desired color (Y, M, C or K).
3. Shake Cubitainer.
4. Place Cubitainer with the connector facing downwards in the loading compartment.

Starting refilling procedure ✔ The Cubitainers are located in the loading compartment

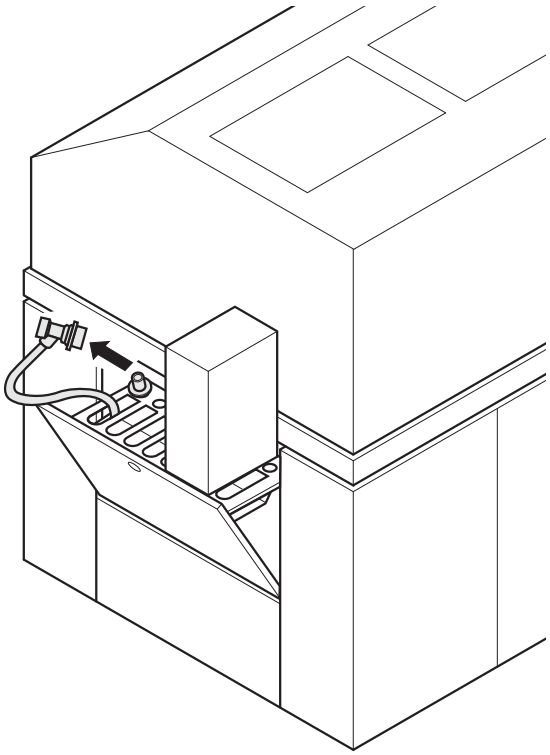


Fig. 53 Removing the fill hose from the park position

5. Once the ink has been identified correctly, remove the respective fill hose from the park position.

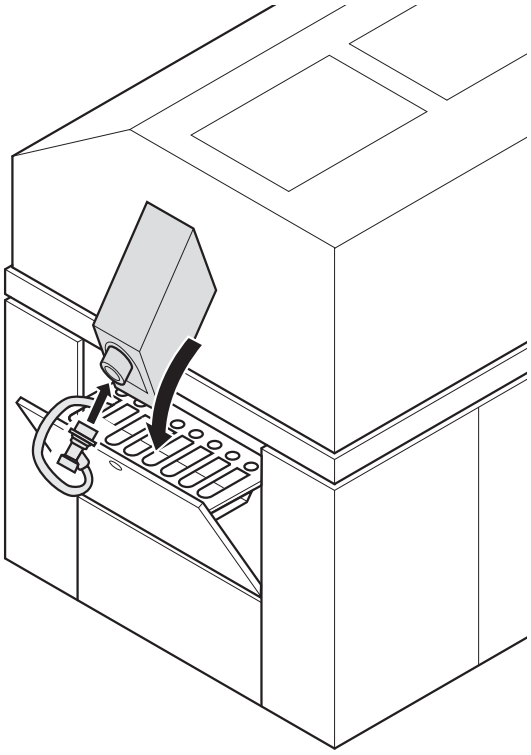


Fig. 54 Connecting the filling hose

6. Attach the quick connector of the fill hose to the connection piece of the Cubitainer by pulling back the coupling.
7. Release coupling.
8. Remove coupling by pulling it back.
9. Return refill hose to the park position.
10. Remove empty Cubitainer.

3.4 Checking and replacing air filter

⚠ WARNING

Energized components, even when the printer has been switched off!

Risk of death via electric shock

- ► Switch off printer with the main switch.
- ► Disconnect printer from the power supply.

⚠ WARNING

Hot surfaces!

Risk of burns

► Wait at least 1 hour after switching off until the UV lamps have cooled down before attempting replacement.

► Wear protective gloves.

NOTICE

Encoder ruler could be scratched!

Reduced functionality of the printer

► Do not touch the encoder ruler with hard objects.

1. Switch off printer with the main switch.
2. If appropriate, move the printhead carriage to the left and manually push it to a suitable position.
3. Disconnect printer from the power supply.

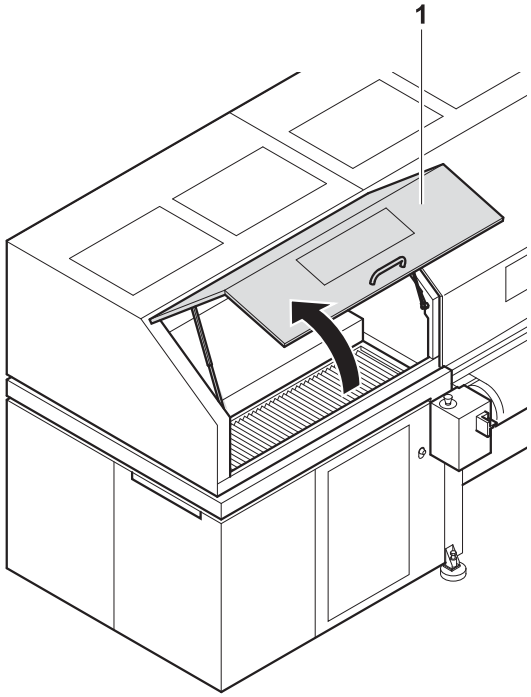


Fig. 55 Opening front panel

4. Lift left front panel (1) up.

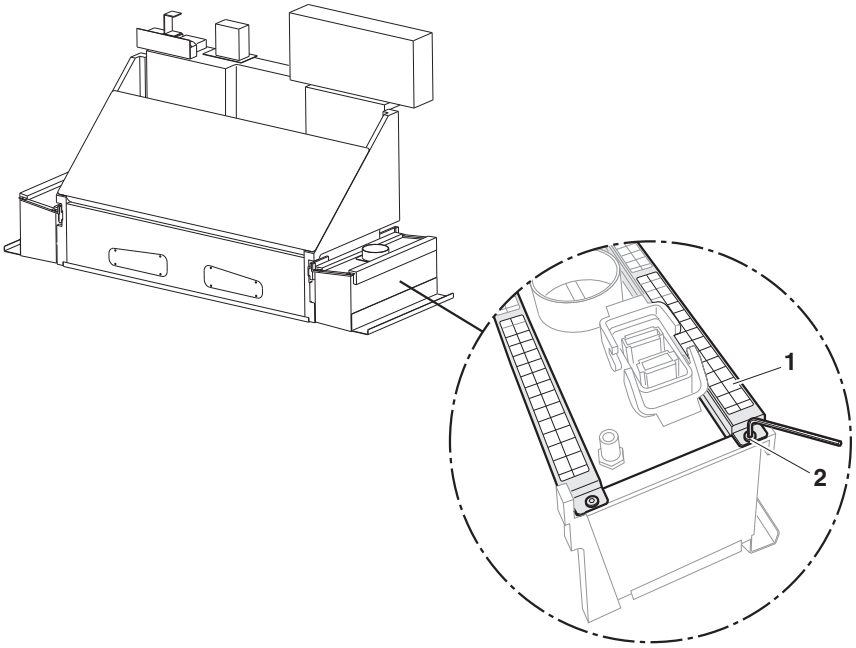


Fig. 56 Removing the air filter

5. Loosen screws (2) on both ends of the mount (1).
6. Remove mount (1).
7. Check air filter for soiling.

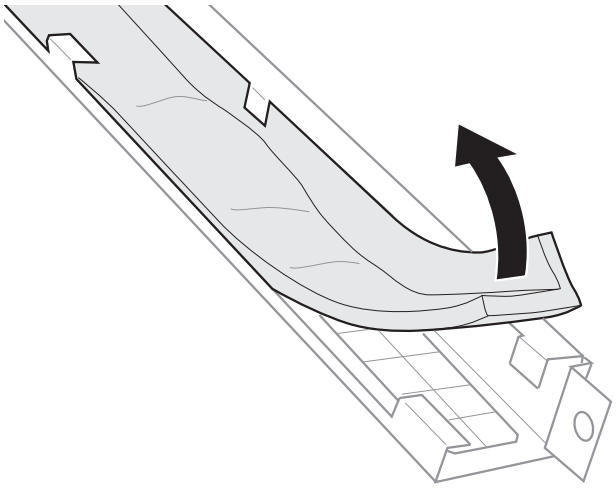


Fig. 57 Checking and, if necessary, replacing the air filter

8. If the air filter is black, replace it.
9. To reassemble, reverse the disassembly procedure.

3.5 Cleaning housing

⚠ WARNING

Penetration of moisture into the printer!

Electric shock and damage to the printer

► Do not clean printer with high-pressure cleaner.

► Use only a slightly moist cloth or dust brush to clean the housing.

► Use a slightly moist cloth or dust brush to clean the housing.

3.6 Checking fuses

NOTICE

Wrong fuses!

Damage to the printer

► Allow only Durst service technicians to change fuses.

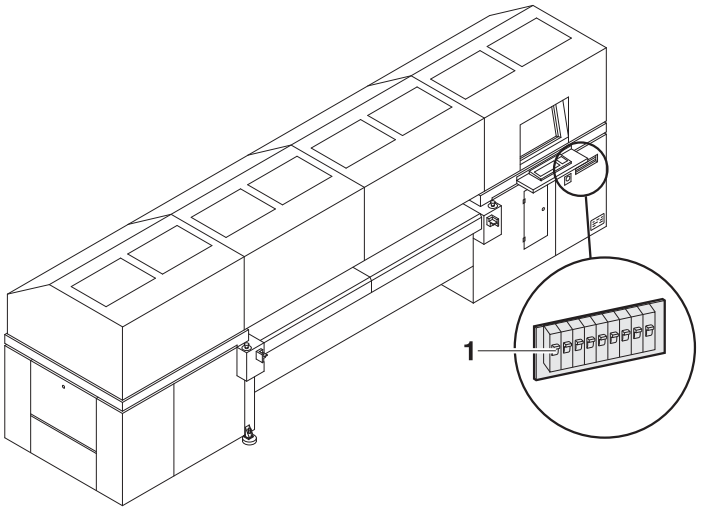


Fig. 58 Checking fuses

1. Check whether fuses (1) are switched off.
2. Switch on fuse if necessary.
3. If fuses switch off again, notify Durst customer service.

3.7 Replacing UV lamps

Preparing replacement

⚠ WARNING

Energized components, even when the printer has been switched off!

Risk of death via electric shock

- ► Switch off printer with the main switch.
- ► Disconnect printer from the power supply.

⚠ WARNING

Hot surfaces!

Risk of burns

- ► Wait at least 1 hour after switching off until the UV lamps have cooled down before attempting replacement.
- ► Wear protective gloves.

NOTICE

Encoder ruler could be scratched!

Reduced functionality of the printer

- ► Do not touch the encoder ruler with hard objects.

1. Switch off printer with the main switch.
2. If appropriate, move the printhead carriage to the left and manually push it to a suitable position.
3. Disconnect printer from the power supply.

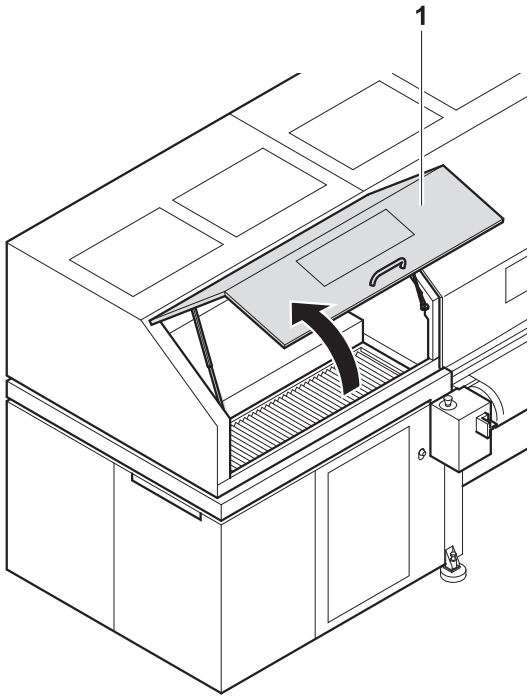


Fig. 59 Opening front panel

4. Lift left front panel (1) up.
5. Close main compressed-air line.

Removing connections

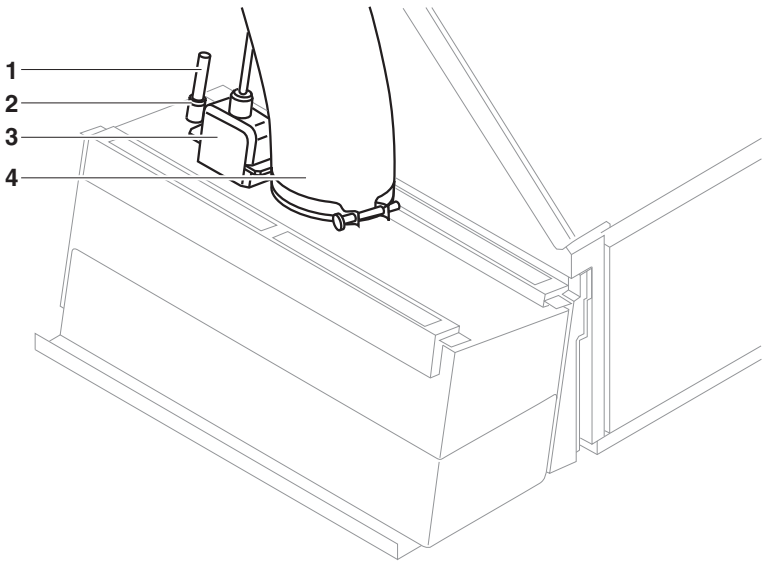


Fig. 60 Removing the hoses and cables

6. Unscrew and pull off exhaust hose (4).
7. Remove connection cable (3).
8. Remove compressed-air hose (1) as follows:
   – Press ring (2) downward and hold it there.
   – Pull off compressed-air hose.

Removing UV lamp head

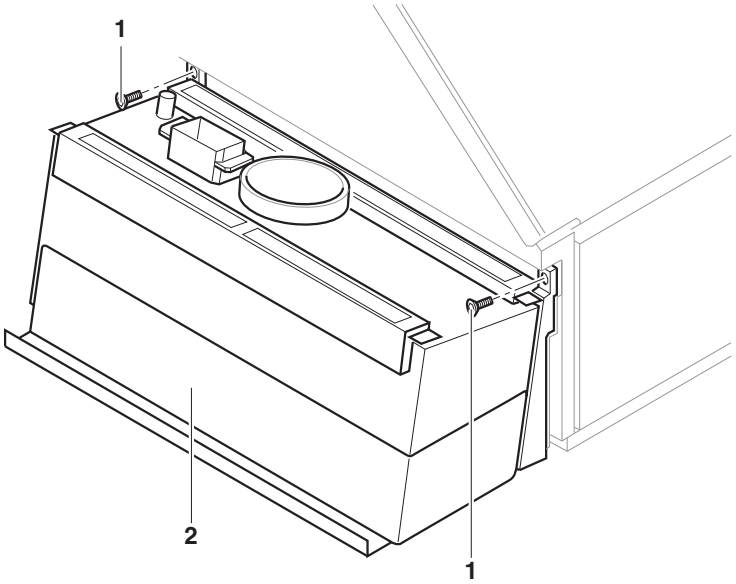


Fig. 61 Screwing off the UV lamp head

9. Unscrew fastening screws (1) of the UV lamp head (2). When doing so, hold the UV lamp head securely so that it does not fall.

NOTICE
Soiling can burn into the cover glass! **Reduced output of the UV lamp** ► Do not touch the cover glass with bare hands.

10. Wear protective gloves.
11. Remove UV lamp head and set it down on a suitable working surface with the mount facing downward.

Removing cover glass

NOTICE

Soiling can burn into the cover glass!

Reduced output of the UV lamp

► Do not touch the cover glass with bare hands.

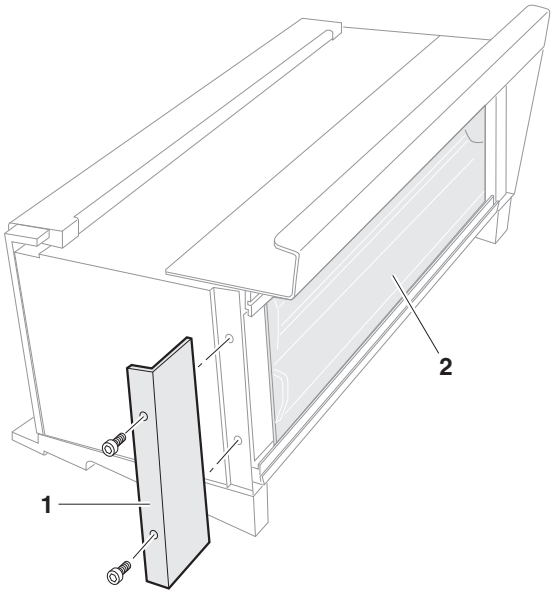


Fig. 62 Screwing off mounting bracket

12. Remove both screws on the mounting bracket (1) with a suitable Allen key. Hold the cover glass (2) firmly when doing so.
13. Store screws in a safe location outside the printer.
14. Remove mounting bracket.

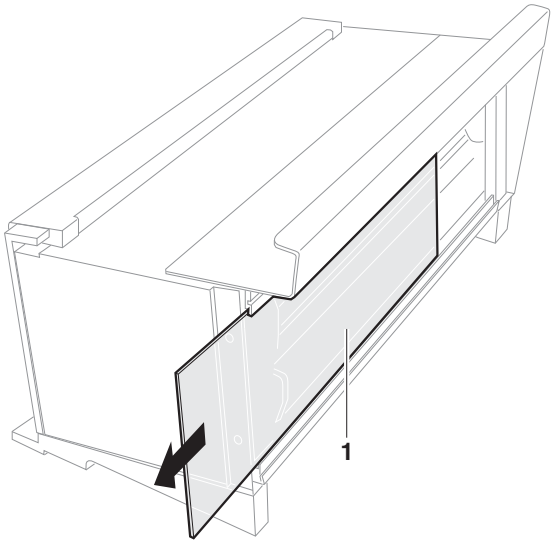


Fig. 63 Pulling out the cover glass

15. Pull out cover glass (1). Note the orientation of the cover glass when doing so.

16. Wipe off cover glass with a cloth to maintain its drying power.

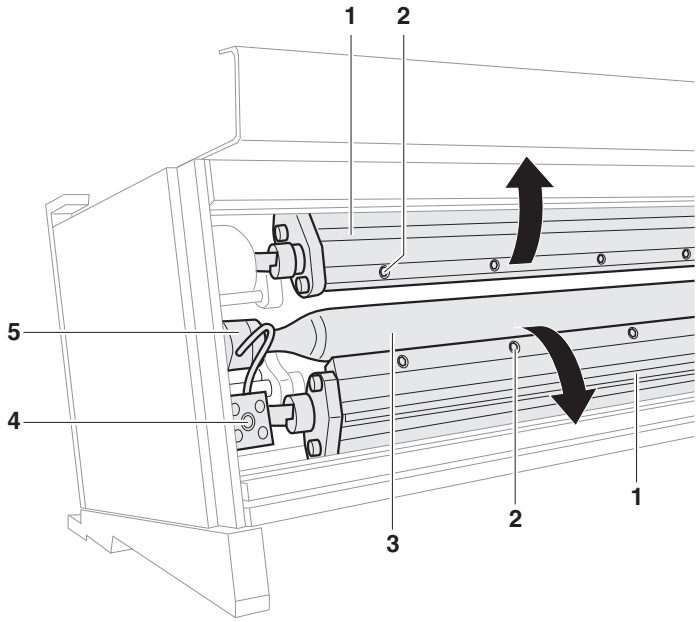
Replacing UV lamps

NOTICE

Soiling can burn into the reflector interior!

Reduced output of the UV lamp

► Do not touch the reflector interior with bare hands.



17. Lift up reflectors (1).
18. Screw off cable (4) on the left and right.
19. Carefully pull out UV lamp (3) at the mount (5). Ensure that the cables are not drawn in and clamped by the gears here.
20. To replace the reflectors, unscrew the screws on the rails (2) and remove reflectors.

NOTICE

Soiling can burn into the glass tube!

Reduced output of the UV lamp

► Do not touch glass tube of new lamp with bare hands.

21. Insert new UV lamp.
22. Proceed further by reversing the procedure for removing the old UV lamp.

4 Disposal

4.1 Disposing of ink, cleaning cloths and Cubitainer

► Dispose of ink, cleaning cloths and air filter according to the regional regulations in an environmentally-friendly way.

G Decommissioning and disassembly

Decommissioning and disassembly are performed by service technicians authorized by Durst Phototechnik AG.

H Appendix

1 Technical data

1.1 General specifications

Parameters		Value
Power supply	Europe	17 KVA 50 Hz max. 32 A per phase
	US	17 KVA 60 Hz max. 125 A per phase
Max. current consumption	Europe	32 A
	US	48 A
Compressed-air input		Max. 6 to 8 bar at 5 l/min. (70 psi at 1.3 gal/min.) (dry air only)
Compressed-air connection on printer		Coupling standard MIGNON Interior diameter of line: min. 8 mm (315 mill)
Fuses		Fuse type F374-63/0.5 (500 mA)
Dimensions	Width	approx. 585 cm
	Length	■ With roller tables: 455 cm ■ Without roller table: 173 cm
	Height	■ With closed doors: 195 cm ■ With opened doors: 230 cm
Space requirement	Area	8 x 6 m (26.2 x 20 ft)
	Required room height	260 cm (103 in)
Weight		■ With roller tables: 4200 kg ■ Without roller tables: 3650 kg
Safety standards		Pursuant to applicable guidelines

1.2 Print specifications

Parameters		Value
Printing mode	DraftMode	200 m^2/h
	HighSpeed	100 m^2/h
	2 passes	65 m^2/h
	3 passes	43 m^2/h
	4 passes	32 m^2/h
Resolution		600 dpi
Colors	Standard	CMYK
	Optional	CMYKW and 1 spot color
		CMYK and 2 light and 2 spot (white/white or white/varnish)
		CMYKcm (c = light cyan, m = light magenta)

Parameters		Value
Ink supply unit		■ Continuous ink feed with 10 l (2.19 gal) ink tanks per color ■ Color can be refilled during operation ■ Refill ink comes in 5 l (1.09 gal) Cubitainers; can be disposed of while assembled
RIP	Software	Caldera Grand RIP + with the Durst Rho P10 250 printer driver for Linux and Macintosh operating systems
	RIP input file formats	All formats supported by Caldera®

1.3 Media specifications

Parameters	Value
Rigid media	Uncoated and coated plate media: ■ Rigid-foam plates ■ Flexible-foam plates ■ Aluminum ■ Acrylic glass ■ Polycarbonate ■ etc.
Maximum printing width	250 cm
Maximum printing length	Limited only by medium length
Maximum medium thickness	■ Standard: 40 mm ■ Industrial model: 70 mm
Minimum plate size	DIN A3 (92.7 x 42 cm)

1.4 Workstation

Parameters	Value
Type	HP workstation
RAM	2 GB
Hard disks	■ Separate hard disks for system and image data ■ At least 146 GB for image data
Drives	DVD/CD-ROM
Operating system	Red Hat Enterprise Linux WS EM64T
Monitor	Integrated 19" touch-screen monitor
Keyboard	Keyboard with trackball
Ports	■ USB ■ Ethernet: 100/1000 Mbps

1.5 Requirements for installation site

Parameters	Value
Maximum altitude	2400 m (8000 ft) above sea level
Temperature range	+20°C to +30°C
Relative humidity	25 to 80%, non-condensing
Hot air output/feed	4500 m^3/h (158900 cu.ft./h)
Compressed-air connection	6 to 8 bar with 5 l/min. (70 psi at 1.3 gal/min.) (dry air only)

2 Accessories and spare parts

Accessory/Spare part	Description		Order code
Rho Rigid-Board-Ink Set	Cyan UV ink	2 x 5 l (2 x 1.3 gal)	LTKC1RBS
	Magenta UV ink		LTKM1RBS
	Yellow UV ink		LTKY1RBS
	Black UV ink		LTKB1RBS
	White UV ink	2 x 5 l (2 x 1.3 gal)	LTKW1RBS
Rho Operator Kit	■ 100 protective gloves ■ 1 pair safety goggles ■ 1 package purging cloths ■ 2 l purging solution ■ 2 syringes		ZW24010
UV lamp	Average service life: 1000 h		LC2099042
Air filter for the UV lamp heads	–		LB2099041
Adjusted print head	Fully pre-adjusted print head with distributor tank, mounting structure and electronics		LC2021400
Hardware service contract	–		Rho Hardware Contract

3 Addresses

Manufacturer of protective gloves

Best Manufacturing Company: http://www.bestglove.com

Type: N-DEX Plus®, order code: 7005L size 8/9

Brief description: 100% nitrile, disposable

Manufacturer of safety goggles

UVEX: http://www.uvex.com

Type: Skyper 9195

Recommended for sanding, lathing and milling, fine mechanical work, light assembly work, work with UV rays, outdoor work.

Standards: DIN EN 166-168 and 170 and/or 172.

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