



Videojet 2300 Series

Operator Manual

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Compliance Information

For Customers in the U.S.A.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference, and
- 2) This device must accept any interference received, including interference that may cause undesired operation.



Warning

PERSONAL INJURY. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 responsible 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 such cases, the users will be required to correct the interference at their own expense.

Shielded cables must be used with this unit to ensure compliance with Class A FCC limits.

The user may find the following booklet prepared by the Federal Communications Commission helpful: [How to Identify and Resolve Radio-TV Interference Problems](#). This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-00-00345-4.

This equipment has been tested and certified for compliance with U.S. regulations regarding safety.

For Customers in Canada

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This equipment has been tested and certified for compliance with Canadian regulations regarding safety.

Pour la Clientèle du Canada

Le present appareil numerique n'émet pas de bruits radioelectriques dépassant les limites applicales aux appareils numerique de las class A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

Cet équipement est certifié CSA.

For Customers in the European Union

This equipment displays the CE mark to indicate conformance to the following legislation:

EC EMC Directive 2014/30/EU

Essential health and safety requirements relating to electromagnetic compatibility.

EN 61000-6-4	Generic Emissions Standard for Heavy Industrial Environments
EN 61000-6-2	Generic standards - Immunity for industrial environments
EN 61000-3-2	Harmonic Current Fluctuations
EN 61000-3-3	Voltage Fluctuation and Flicker

EC Low Voltage Directive 2014/35/EU

Essential health and safety requirements relating to electrical equipment designed for use within certain voltage limits.

EN 62368-1 (IEC 62368-1)

Safety requirements for audio/video, information and communication technology equipment.

Support and Training

Contact Information

If you have any questions or need assistance, contact Videojet Technologies Inc. at 1-800-843-3610 (for all customers within the United States). Outside the U.S., the customers must contact their Videojet Technologies Inc. distributor or subsidiary for assistance.

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Service Program

About TotalSource

The TotalSource program is designed to protect your investment in Videojet printers and deliver the lowest total cost of ownership to your operations.



In addition to offering special pricing on Videojet high quality consumables and parts, TotalSource also provides comprehensive services and training at attractive discounts - all designed to help you keep your lines up and running.

- A complete array of customer services and offerings tailored to meet your operational needs
- A program designed to maximize your equipment uptime, allowing you to focus on your most important mission - your company's productivity
- A product and service program to support and deliver your ultimate purchase: a high quality, reliable printed code on your finished product.

Customer Training

If you wish to perform your own service and maintenance on the printer, Videojet Technologies Inc. highly recommends you, to complete a Customer Training Course on the printer.

Note: The manuals are intended to be supplements to (and not replacements for) Videojet Technologies Inc. Customer Training.

For more information on Videojet Technologies Inc. Customer Training Courses, call 1-800-843-3610 (within the United States only). Outside the U.S., customer should contact a Videojet subsidiary office or their local Videojet distributor for more information.

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Introduction

1

About Videojet 2300 Series

The Videojet 2340, 2351, and 2361 printers are auto purging ink jet printers. The design of the printer enables the printer to print high resolution text, barcodes and graphics. These printers are easy to use and cost effective.

The 2300 Series printers use the CLARiTY operator interface as a standard. The interface is a part of the printer (that is you do not require to connect the printers to an external Personal Computer (PC) for normal operation). The buttons in the interface provide easy navigation to the operator. The Slave units do not have the interface.

An external PC is required only to configure the printer and download the messages into the printer.

The auto-purging printhead makes sure that there is a consistent and high quality code during the production period. This printhead does not use more than the required amount of ink. The ink is supplied through non pressurised, ink canisters that are installed in the canister chute which make the printers easy to use and clean.

Print Area

The print area for the 2300 Series printers is shown in Table 1-1.

Printer Type	Print Area
Videojet 2340	17mm X 2000mm
Videojet 2351	50mm X 2000mm
Videojet 2361	70mm X 2000mm

Table 1-1: Print Area

Note: The Videojet 2300 series printers are referred to as 'printer' in this document.

Main Parts

The following figures shows the printer with the main components and connections highlighted.

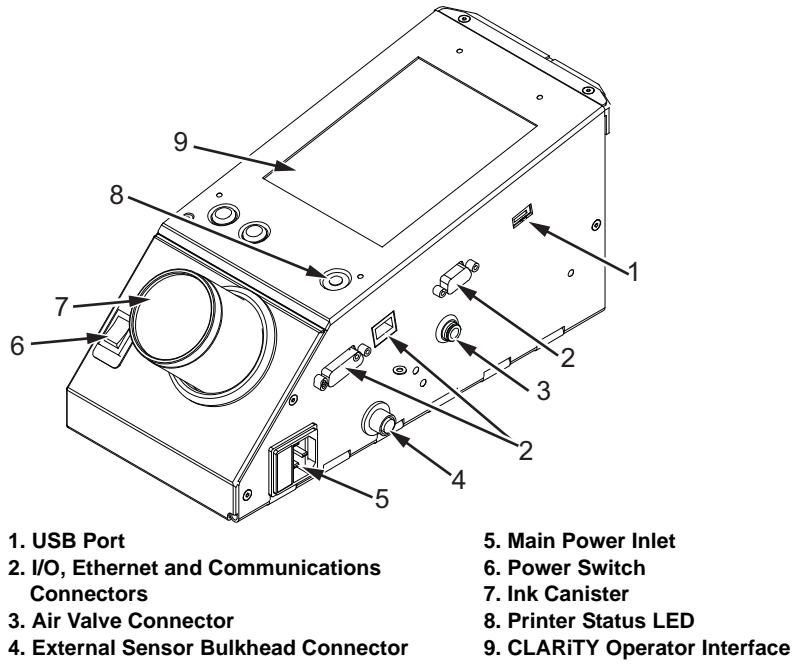


Figure 1-1: Printer Parts - Videojet 2340

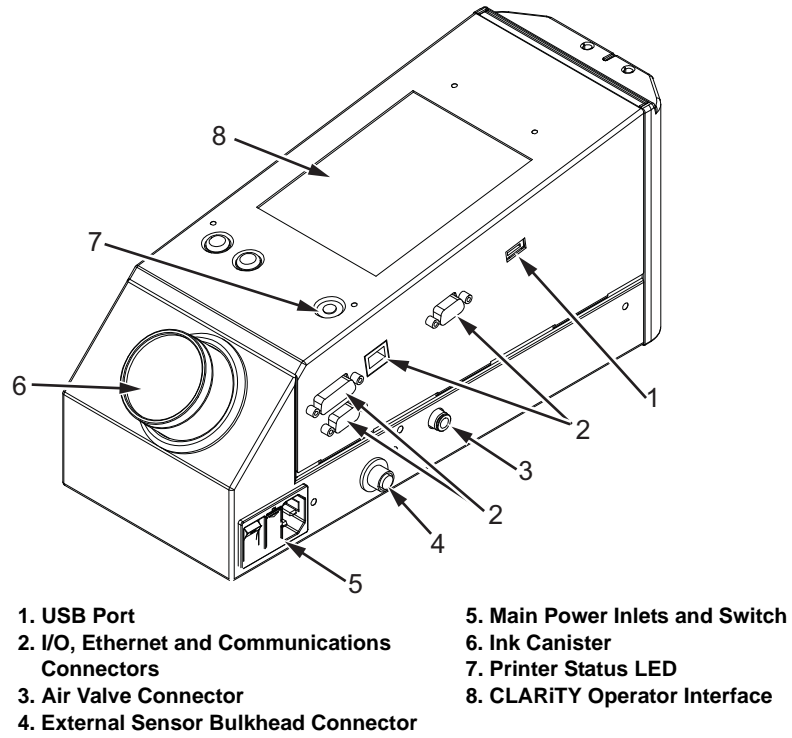
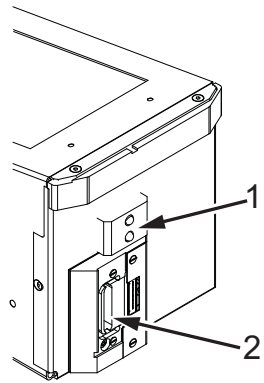
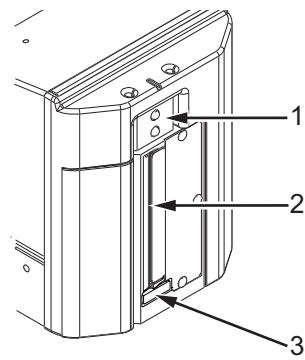


Figure 1-2: Printer Parts - Videojet 2351 and 2361



- 1. Internal Product Sensor**
- 2. Printhead**

Figure 1-3: Printhead - Videojet 2340



- 1. Internal Product Sensor**
- 2. Printhead**
- 3. Debris Collection Pad**

Figure 1-4: Printhead - Videojet 2351 and 2361

This chapter contains the following topics:

- Introduction
- Safety Conventions Used in the Manual
- Equipment Safety Guidelines
- Placement of the Printer
- Ink Safety Guidelines
- Safety Warnings for 2300 series Printers
- Other Important Guidelines
- Medical Emergencies



Caution

EQUIPMENT DAMAGE. Read this chapter thoroughly before attempting to install, operate, service, or maintain this equipment.



Warning

PERSONAL INJURY. The intended use of this printer is to print information directly onto a product. Follow the installation and operating instructions at all times. Only trained personnel should carry out maintenance or repair. Use of this equipment for any other purposes may lead to serious personal injury.

Introduction

The policy of Videojet Technologies Inc. is to manufacture non-contact printing/coding systems and ink supplies that meet high standards of performance and reliability. Therefore, we employ strict quality control techniques to eliminate the potential for defects and hazards in our products.

The safety guidelines provided in this chapter are intended to educate the operator on all safety issues so that the operator can operate the printer safely.

Safety Conventions Used in the Manual

Specific safety information is listed throughout this manual in the form of Warning and Caution statements. Pay close attention to these statements as they contain important information that help in avoiding potential hazards to yourself or to the equipment.

Warning Statements

- Warning statements are used to indicate hazards or unsafe practices that may result in personal injury or death
- They have a triangular symbol with an exclamation mark to the immediate left of the text
- They are always preceded by the word “Warning”
- They are always found before the step or information referring to the hazard

For example:



Warning

PERSONAL INJURY. The next step, “Cleaning the Printhead,” must be performed by service or maintenance personnel. Qualified personnel have successfully completed the training courses, have sufficient experience with the printer, and are aware of the potential hazards to which they are exposed.

Caution Statements

- Caution statements are used to indicate hazards or unsafe practices that can result in equipment or property damage
- They have a triangular symbol with an exclamation mark to the immediate left of the text
- They are always preceded by the word “Caution”
- They are always found before the step or information referring to the hazard

Example:



Caution

EQUIPMENT DAMAGE. Never turn off the printer by switching the AC power switch to the Off (O) position. Before pressing the Off key, allow the printer to complete the three and a half minute shutdown sequence. Failure in following this procedure prevents the printer from drawing the ink in the ink return line, back into the reservoir. This may cause the ink to dry in the ink return line, resulting in problems when you turn the printer on again.

Equipment Safety Guidelines

This section contains important safety guidelines pertaining to the operation and handling of the printer and associated equipment.



Warning

PERSONAL INJURY. While performing maintenance or repair work, disconnect the mains supply unless it is absolutely necessary to leave the supply on while carrying out adjustments.



Warning

PERSONAL INJURY. All electrical wiring and connections must comply with applicable local codes. Consult the appropriate regulatory agency for further information.



Warning

PERSONAL INJURY. Do not, under any circumstances, remove or obstruct any warning, caution, or instruction labels present on the printer.

Placement of the Printer



Warning

PERSONAL INJURY. Do not place the printer in a hazardous location. Hazardous locations might create an explosion, leading to personal injury.

Hazardous locations, as defined in the United States, are those areas that may contain hazardous materials in a quantity sufficient to create an explosion. These are defined in Article 500 of the National Electrical Code ANSI/NFPA 70-1993.

Outside the United States, you must ensure compliance with all local regulations regarding equipment placement in potentially hazardous locations.

Ink Safety Guidelines

This section provides important safety guidelines pertaining to the use and handling of inks. Read the appropriate MSDS for more information.



Warning

PERSONAL INJURY. Always observe the following safety guidelines when using or handling inks.
For continued protection against possible fire hazard, use only Videojet supplies with a flash point no lower than -22 °C (-8 °F) and boiling point no lower than 56 °C (133 °F).



Warning

PERSONAL INJURY. The printer ink is volatile and flammable. They must be stored and handled according to local regulations. Work only in areas with good ventilation.



Warning

PERSONAL INJURY. Do not smoke or use a naked flame in the vicinity of these substances.

Immediately after use, remove any tissue or cloth that becomes saturated with the printer ink. Dispose all such items in accordance with the local regulations.

Only full bottles are recommended for use when replenishing ink; partially filled bottles must be disposed in accordance with the local regulations.



Warning

PERSONAL INJURY. Do not smoke when you are near the printer or printhead. If the printer exhaust fumes are subjected to an ignition source, it may result in an explosion or fire.



Warning

PERSONAL INJURY. Wear safety glasses with side shields (or equivalent eye protection) when handling ink. If it splashes on your eyes, flush your eyes with water for 15 minutes and consult a physician immediately.



Warning

PERSONAL INJURY. Wear butyl rubber gloves when handling ink. Avoid contact with skin and mucous membranes (nasal passage, throat). Upon contact with skin, remove any contaminated clothing and wash the area with soap and water. Consult a physician if irritation persists.



Caution

PERSONAL INJURY. Do not pour ink into sinks, sewers, or drains. Waste disposal must comply with local regulations. Contact the appropriate regulatory agency for further information.



Warning

PERSONAL INJURY. Read and understand the Material Safety Data Sheet (MSDS) before using ink. An MSDS exists for each type of ink. The appropriate sheet or sheets are supplied along with the shipped product.

Ensure that you retain all MSDSs for future reference in case you need to consult a physician regarding an ink-related accident. Additional copies of MSDSs are available upon request, and can be obtained by contacting the Videojet Customer Service Department at 800-843-3610. Outside the U.S., customers should contact a subsidiary Videojet office or their local Videojet distributor.



Warning

PERSONAL INJURY. Certain inks are flammable and must be stored appropriately. Storage must comply with local regulations. Contact the appropriate regulatory agency for further information. The label on the bottle or the MSDS indicates if a particular fluid is flammable or not.

Safety Warnings for 2300 series Printers

Grounding and Bonding



Warning

PERSONAL INJURY. Always prevent static discharge from occurring. Use proper Grounding and Bonding methods.



Warning

PERSONAL INJURY. Always bond conductive equipment together with approved cables to maintain them at the same potential and minimize static discharge.

Electrical Power/Air Supply



Warning

PERSONAL INJURY. Before opening or removing any printer covers, ensure that the mains power is disconnected and compressed air supplies are switched off.



Warning

PERSONAL INJURY. This equipment must be installed with a locally positioned mains supply isolation device. This can be either a plug and socket or a switch disconnecter or circuit breaker in accordance with IEC 60947-3 or IEC 60947-2.



Warning

PERSONAL INJURY. Always isolate equipment from the mains and remove mains power connector to the printer before attempting any maintenance or repair on any part of the product.



Warning

PERSONAL INJURY. Before connecting compressed air supply to Videojet 2340, 2351 and 2361, ensure that the air regulator is switched OFF.



Warning

PERSONAL INJURY. Ensure that any cables from the printer are secured to avoid chance of movement into walkways and becoming a trip hazard.



Warning

PERSONAL INJURY. There will be sections of the Videojet 2340, 2351 and 2361 control board that will be permanently powered via the on-board lithium battery - therefore it is essential that the board should never be placed onto nor stored in or on any conductive surface (including conductive, plastic bags etc.) as this would flatten the battery and/or potentially result in battery overheating. The battery cannot be replaced by the customer.



Warning

PERSONAL INJURY. Ensure that all external energy sources are isolated from the printer before opening the outer casing. This includes the mains power cable and I/O cable assembly (if used).

Other Important Guidelines



Warning

PERSONAL INJURY. Do not point the printhead directly and in close proximity to the eyes, unless the printer is switched off and isolated from the mains and compressed air supplies.



Warning

PERSONAL INJURY. Read any warning or hazard information supplied with any ink or consumable products. When using any chemicals, always wear protective gloves and only use in well-ventilated areas.



Warning

PERSONAL INJURY. The Videojet 2340, 2351 and 2361 printer is supplied with warning symbols for power supply and compressed air. If any part of these symbols become damaged, worn or removed they must be immediately replaced.

Medical Emergencies

This section provides important medical information in case of an accident.



Warning

In the event of a medical emergency, contact a physician immediately.

Emergencies Involving Printer Fluids

If the incident involves an ink, carry the bottle and/or MSDS with you to the physician's office. These items contain important information that the physician may require, to provide the precise medical treatment.

CLARiTY Operator Interface

3

This chapter contains the following topics:

- Introduction
- Home Screen of CLARiTY
- Screen Description
- Data Entry Pad

Introduction

The CLARiTY operator interface is a touch screen system. The buttons in the interface help the operator to navigate through the software easily.

Normally most areas of the interface are active. The operator can touch the active areas to select the required feature. The interface also contains the icons that are like buttons on the normal control panel (for example,



Home Screen of CLARiTY

The Home screen of the CLARiTY is shown in Figure 3-1.



Figure 3-1: Home Screen of CLARiTY

Screen Description

Buttons

The screen has buttons that help you navigate to the key pages of the interface. You can reach any key page from the current page with these buttons (refer to Figure 3-2 and Table 3-1).

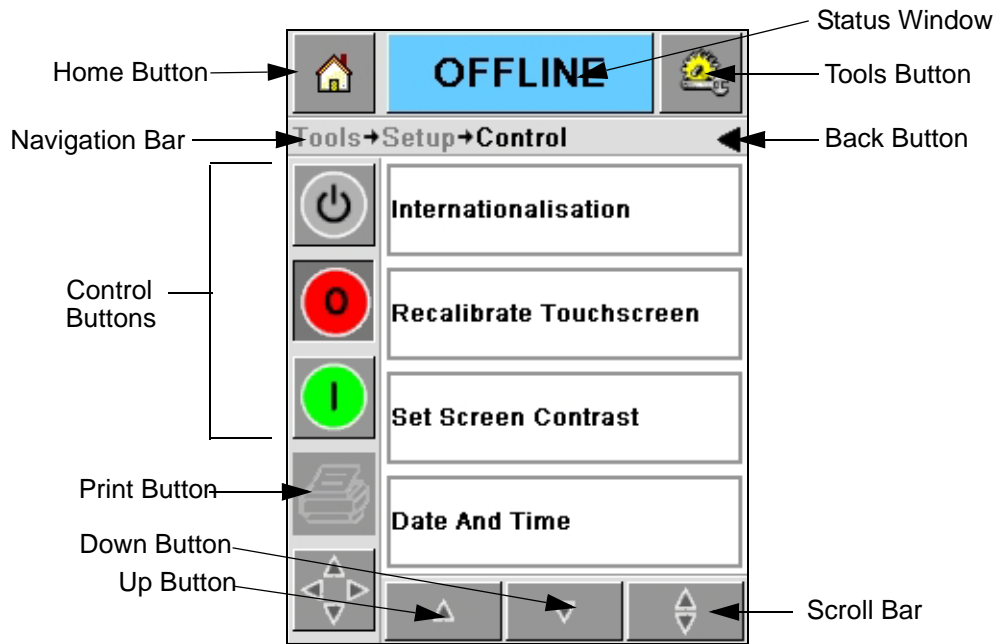


Figure 3-2: Shortcut Buttons

Icon	Description
Home	Takes you to the Home screen
Status Window	Takes you to the Fault and Warning screens
Tools	Takes you to the Setup and Diagnostics Tools screen
Scroll Bar	Allows to navigate up and down the screen selected. This icon is useful to find a Job in the Videojet 2340, 2351 and 2361 database.
Control buttons	Refer to "Control Buttons" on page 3-4.
Job	Use to load the next image (job) for printing and to enter any variable data

Table 3-1: Shortcut Buttons

Icon	Description
Navigation Bar	Indicates the location of your current screen in the menu tree The current screen allows you to do the following tasks: <ul style="list-style-type: none"> • Touch the Back icon to return one level up • Touch any level displayed on the Navigation Bar to take you to that level

Table 3-1: Shortcut Buttons

Control Buttons

You can use the control buttons to get control on the printer immediately (refer to Figure 3-3).

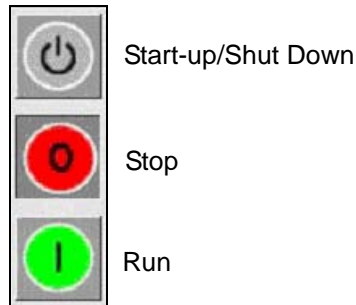


Figure 3-3: Control Frame Buttons

Active Areas

The *Production Performance* and *Consumables* areas in Figure 3-4 take you to the screens that have more information and statistics.

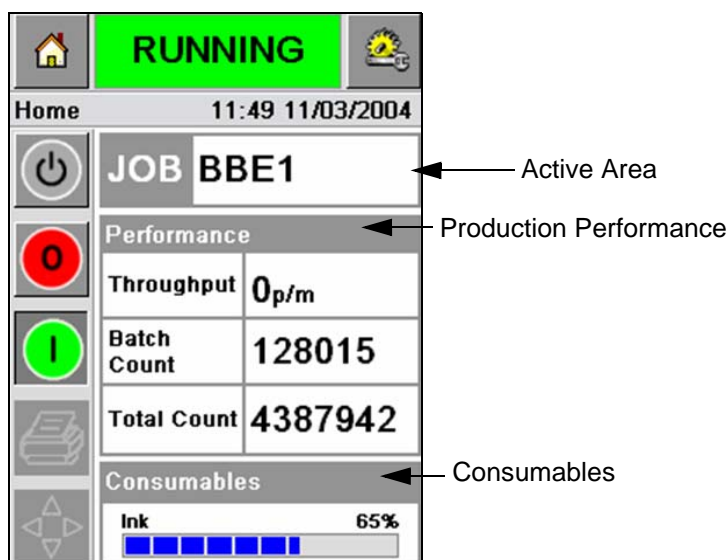


Figure 3-4: Performance and Consumables Status

Data Entry Pad

An alphanumeric, mobile phone style data entry pad is provided to the operator to enter the data in the CLARiTY interface.



Figure 3-5: Data Entry Pad

The different keys in the data entry pad are shown in Table 3-2.

Key	Characters (in turn)
	1.,?/:!-&;+#()'"_@\$%&€%<>¿¡§=α
	ABC2abcÀÁÂÃÄÅÆÇàáâãäåæçø
	DEF3defÈÉÊËÈèéê€
	GHI4ghiİıİi
	JKL5jkl£
	MNO6mnoÖÛÓØÑöòóøñ

Table 3-2: Data Entry Pad Map - English (Default)

Key	Characters (in turn)
	PQRS7pqrs\$β\
	TUV8tuvÛÜÚúÛüúú
	WXYZ9wxyz
	Cursor left
	0*
	Cursor right
	Backspace/Clear
	Space

Table 3-2: Data Entry Pad Map - English (Default) (Continued)

Equipment Operation

4

This chapter describes the procedures to do the following tasks:

- Turn on the Printer
- Set the Air Pressure
- Start the Printer
- Printer LED Functions
- Add Ink
- How to Get High Quality Print
- Clean the Printhead
- Maintenance

Turn on the Printer

Press the power switch on the rear of the unit to turn on the printer (refer to Figure 4-1 and Figure 4-2).

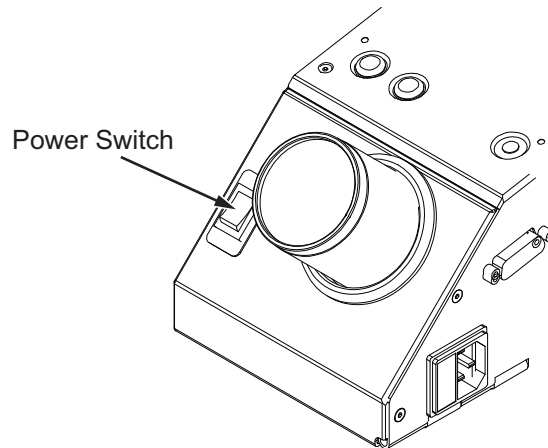


Figure 4-1: Power Switch - Videojet 2340

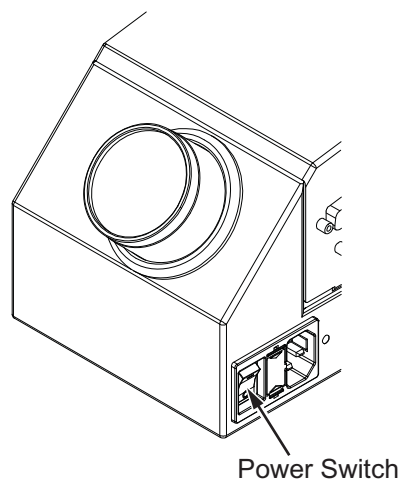


Figure 4-2: Power Switch - Videojet 2351 and 2361

The sequence of steps that occur after you turn on the printer are as follows:

- 1 During the startup sequence, the printer performs a number of self-diagnostic checks. These checks take approximately 90 seconds to complete.
- 2 During the self-diagnostic checks, the CLARiTY interface screen shows the first set of diagnostic data. Ignore this data.

- 3 When the self-diagnostic checks are complete, the CLARiTY Home screen appears (refer to Figure 4-3).
- 4 The status window of the Home screen shows the *SHUTDOWN* status.

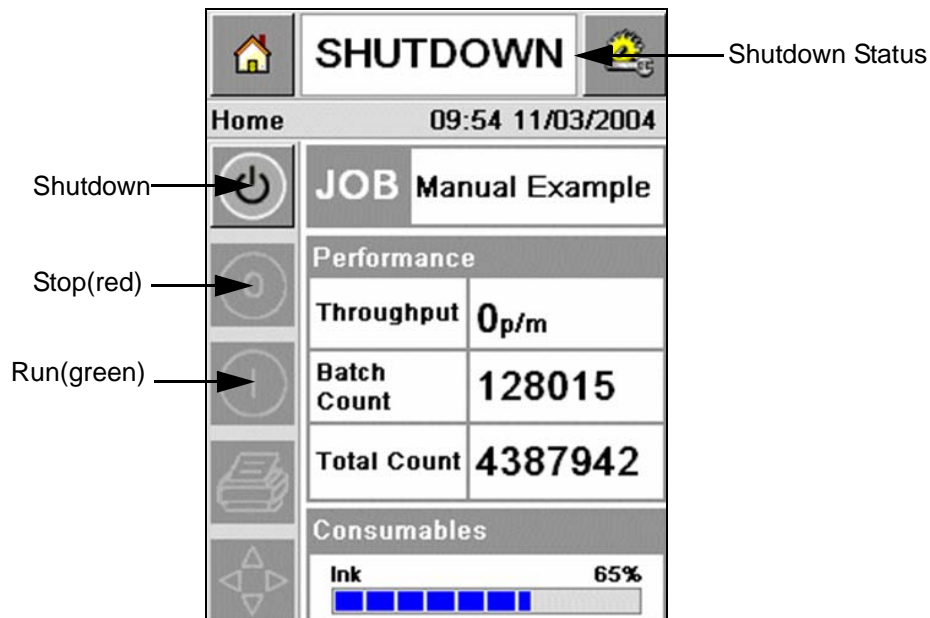


Figure 4-3: Home Screen

- 5 During the *SHUTDOWN* status, the *Stop* (red) and *Run* (green) buttons (Figure 4-3) are disabled (in grey color).

Note: If the print sensor is activated accidentally, the printer will not operate because all the sensor and encoder input are ignored during the shutdown status.

Note: During the shutdown status, make sure that the production line and printer are prepared and ready for start-up.

Set the Air Pressure

The printer comes with an air regulator. During the installation of the printer, the air regulator must be installed near the printer.

 **Caution**

The air pressure must be set according to the printer type. Follow the recommended values. Failure to follow this caution can decrease the efficiency of the printer.

The air pressure requirement for the 2300 series is shown in the Table 4-1.

Printer Type	Air Pressure
Videojet 2340	2.5 Bar
Videojet 2351	4.5 Bar
Videojet 2361	4.5 Bar

Table 4-1: Air Pressures



Figure 4-4: Air Regulator for Videojet 2340, 2351 and 2361

Start the Printer

Touch the *Start-Up/Shutdown* icon to start the printer.

The events that occur after you touch the *Start-Up/Shutdown* icon are as follows:

- The *Offline* status appears in the status window of the CLARiTY Home screen (refer to Figure 4-5).
- The printer runs through a self-cleaning cycle to ensure that it is ready for printing.
- The *Stop* and *Run* buttons become active (Figure 4-5).

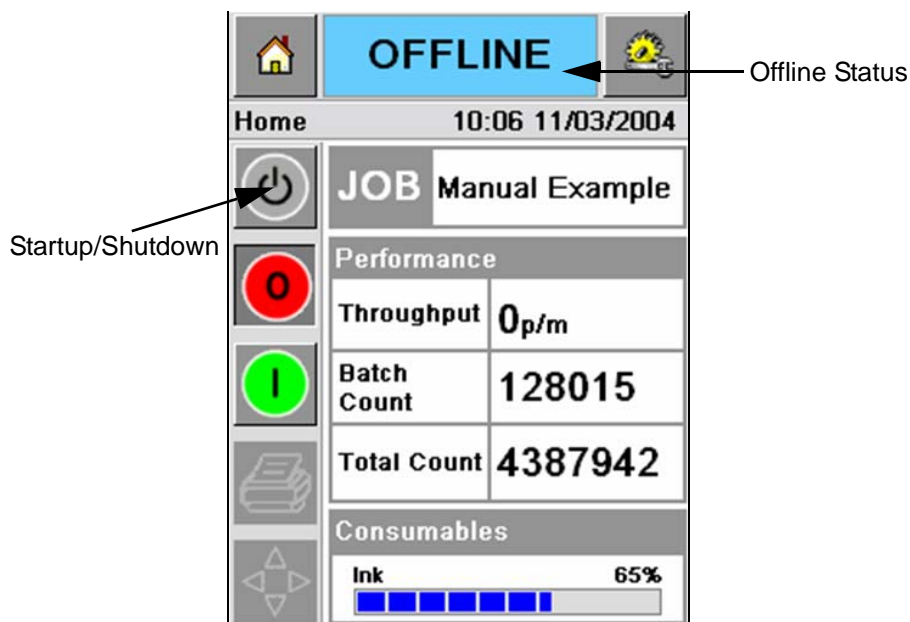


Figure 4-5: Home Screen - Offline

- If a fault or a warning condition exists, a fault or warning message appears in the status window instead of the Offline status. You must clear the fault or warning message before you continue the process of printing.

Refer to “Warnings and Fault Messages” on page 5-14 for more information on Fault and Warning messages.

Printer LED Functions

The printer has a tri-colored LED below the CLARiTY interface that indicates the status of the printer (Figure 4-6).

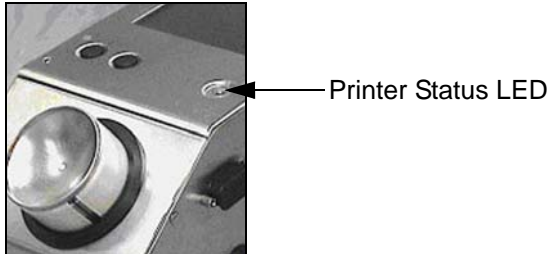


Figure 4-6: Printer LED

The LED states and their functions are shown in Table 4-2.

LED States	Function
Green (constant)	On-line, ready to print
Green (flashing)	On-line and printing (LED flashes for every print)
Orange (Flashing)	CLARiTY update in progress
Red (constant)	Off-line
Red (flashing)	Fault condition

Table 4-2: LED Status and their Functions

Add Ink

This section describes the following topics:

- How to review the status of the ink
- Correct time to insert a new ink canister
- The number of prints possible with the available ink

Review the Ink Status

The Consumables area of the Home screen displays a percentage value of ink that is left in the ink canister of the printer. For example refer to Figure 4-7 on page 4-7.

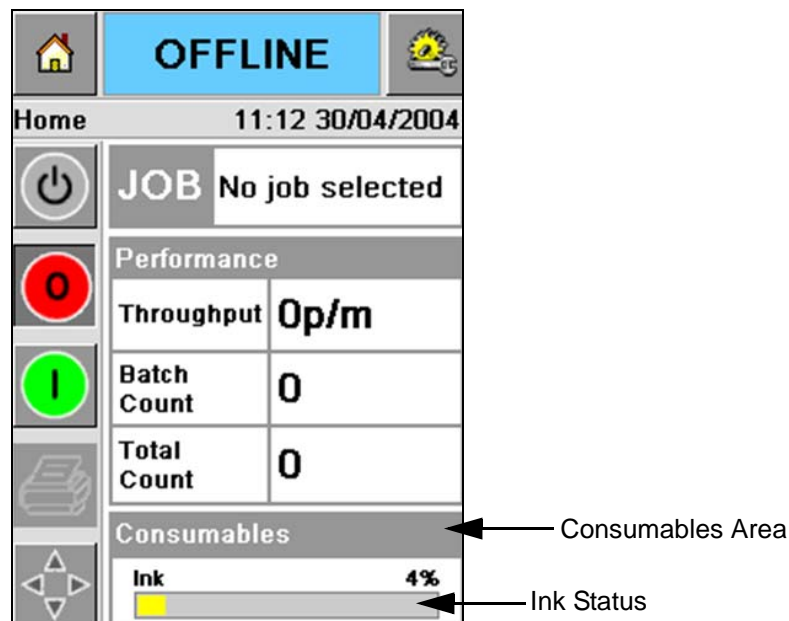


Figure 4-7: Consumables Area

A description of the colors that appear in the status bar is as follows:

Color	Description
Blue	The reservoir is full and replacement ink canister is not required
Yellow	Enough ink is available for printing but you can add a new ink canister. If a new ink canister is not added, the printer operates until the printhead ink reservoir reaches a critically low level.
Red	The ink canister is empty. A new ink canister must be added and the ink empty fault must be cleared.

Table 4-3: Colors in the Consumables Status Area

Insert a New Ink Canister

The ink must be added when the ink low level warning appears on the CLARiTY screen. The ink status bar must show less than 5% (Figure 4-7). The ink status shown on the status bar makes sure that the present ink canister is replaced after the present canister becomes empty.

When the consumables meter status is red before a new canister is fitted, the printer will go through a longer filling cycle before the printing continues.

Do the following tasks to replace an empty ink canister with a new canister:

- 1 Touch the *Consumables* area on the Home screen (Figure 4-7 on page 4-7). The *Consumables* screen appears (Figure 4-8).



Figure 4-8: Consumables Screen

- 2 Touch the *Add Ink* icon (Figure 4-8). The *Add Ink* screen appears (Figure 4-9 on page 4-9).

- 3 On system prompt, unscrew and remove the empty ink canister.



Figure 4-9: Add Ink Screen

- 4 Enter the unique ink canister code found on the label of every ink canister (Figure 4-10) and touch the OK icon.

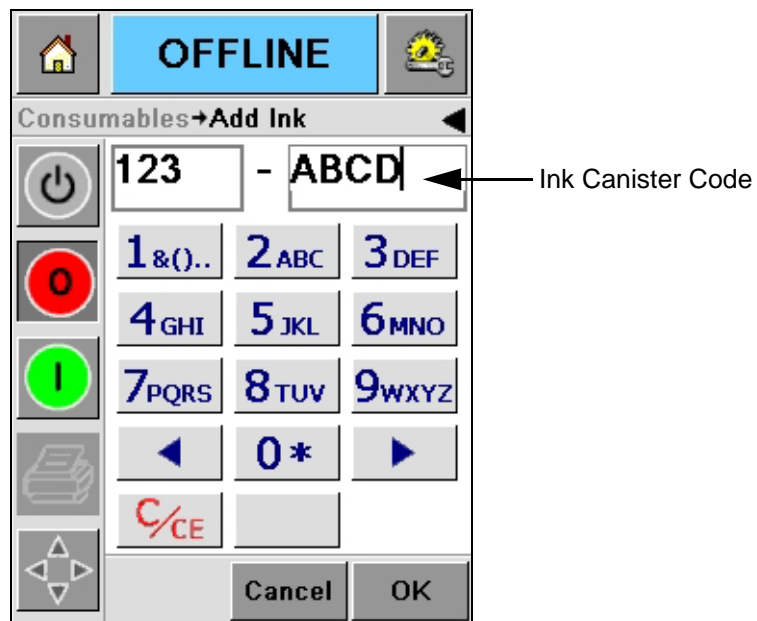


Figure 4-10: Canister Code

If you enter a wrong ink canister code, an error message appears (Figure 4-11). Enter the correct ink canister code.



Figure 4-11: Invalid Ink Code Messages



Caution

EQUIPMENT DAMAGE. The use of incompatible ink can seriously damage the printer and such damage will not be covered under warranty.

- 5 After the CLARiTY validates the new ink canister code, you can fit the new canister. To fit the new canister do the following tasks:



Figure 4-12: Removal of Empty Ink Canister

- a. Remove the protective cover from the new ink canister.
- b. Align the new canister into the canister chute and turn to your right (Figure 4-13).
- c. Insert and set the new canister inside the chute carefully. Do not overtighten.



Figure 4-13: Direction of Insertion

Note: When you must refit a half full ink canister, the ink canister code must be entered again.

Capacity of the Ink Canisters

Do the following tasks to check the amount of ink that is available in the current ink canister:

- 1 Touch the *Consumables* area on the Home screen during the printer *Running* status (Figure 4-14). The *Consumables* screen that displays the number of prints (Figure 4-15 on page 4-13) appears.

This screen displays *Prints Per Ink Canister* and *Prints Left in Canister*.

The *Prints Per Ink Canister* gives the number of prints from a full ink canister and *Prints Left in Canister* gives the number of prints left from the current canister.

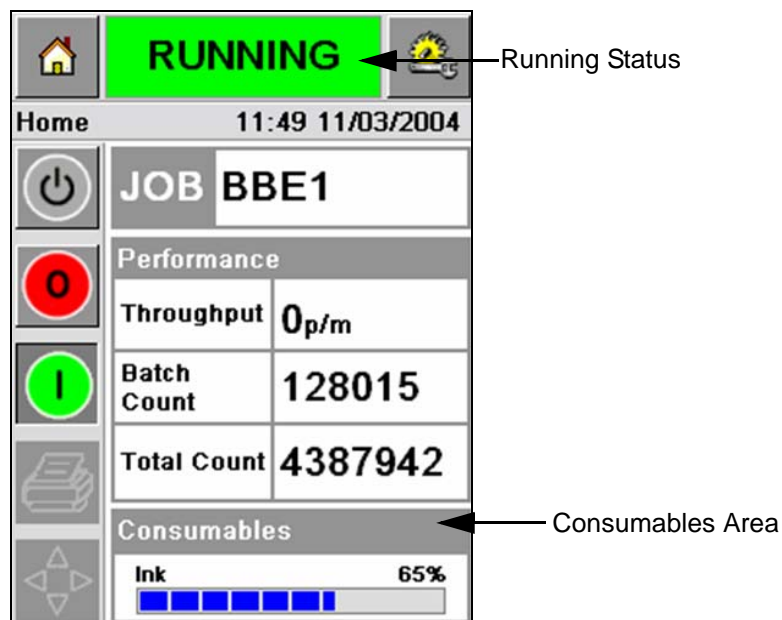


Figure 4-14: Consumables Area - Running

- When a new job is selected, the number of prints is calculated again and displayed on the screen. This number of prints depends on the amount of ink the new image requires.

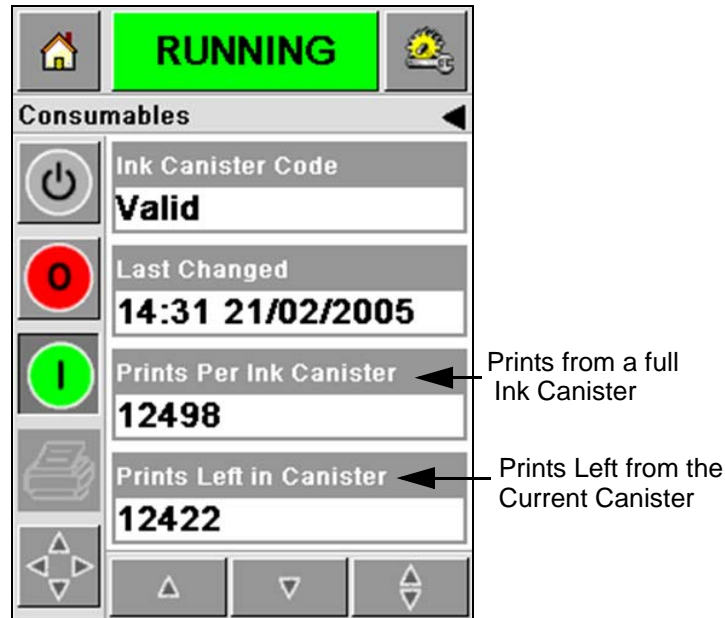


Figure 4-15: Number of Prints

- Use the *Up* and *Down* buttons to see the *Estimated Empty Time* and *Estimated Time Remaining* for the current ink canister (Figure 4-16).

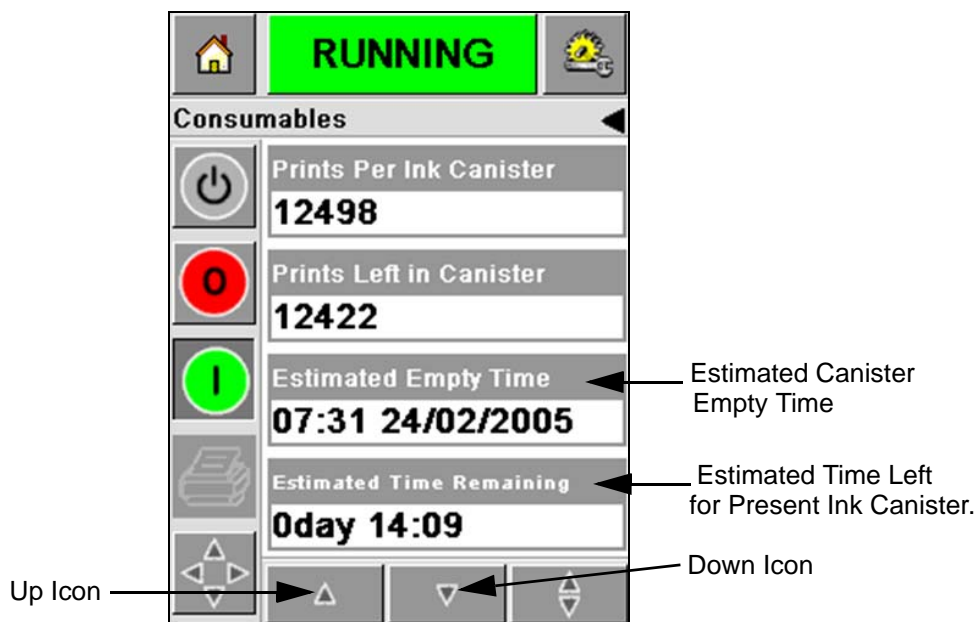


Figure 4-16: Estimated Time Display

How to Get High Quality Print

To get high quality print, make sure to move the products past the printhead in a consistent method. For correct conveyor movement, refer to the following guidelines:

- A high grip and flat belt conveyor with pack guidance is recommended.
- Make sure that there is enough space between the products to get correct print signals. This action prevents the products from not being printed.
- Gravity roller conveyors are not recommended. The box speed and spacing can change according to the product speed and weight.
- Powered roller conveyors can decrease the print quality. This type of roller is not recommended for barcodes or high resolution graphic applications.
- If barcodes are required in the image, then an encoder must measure accurately the speed of the product. This accuracy in the speed measurement leads to best print performance.

The maximum and minimum conveyor speeds for 2300 series are shown in Table 4-4.

Printer Type	Minimum Speed	Maximum Speed at 100% Resolution
Videojet 2340	10 mm/second (0.6 m/min)	550 mm/second (33 m/min)
Videojet 2351	10 mm/second (0.6 m/min)	550 mm/second (33 m/min)
Videojet 2361	10 mm/second (0.6 m/min)	550 mm/second (33 m/min)

Table 4-4: Conveyor Speeds

The most common causes for low quality of print are described below:

- Incorrect movement of the product past the printhead (for example the use of gravity conveyors, roller conveyors)
- Dust or dirt blocking or deflecting jets
- Slippage of the product on the conveyor

- The distance between the face of the printhead and the printed surface is not consistent. This difference is caused normally because of the following reasons:
 - The product guidance (product handling) does not maintain a consistent gap.
 - The product is distorted (for example, bent cardboard box).

Note: To get high quality prints, the distance between the printhead and the product must not be greater than 2mm (Figure 4-17). Use the pack guidance on the conveying equipment to maintain this distance.

Note: The rub plate on the front side of the printer helps to protect the printhead from any potential damage and to maintain the jetting distance to the product.

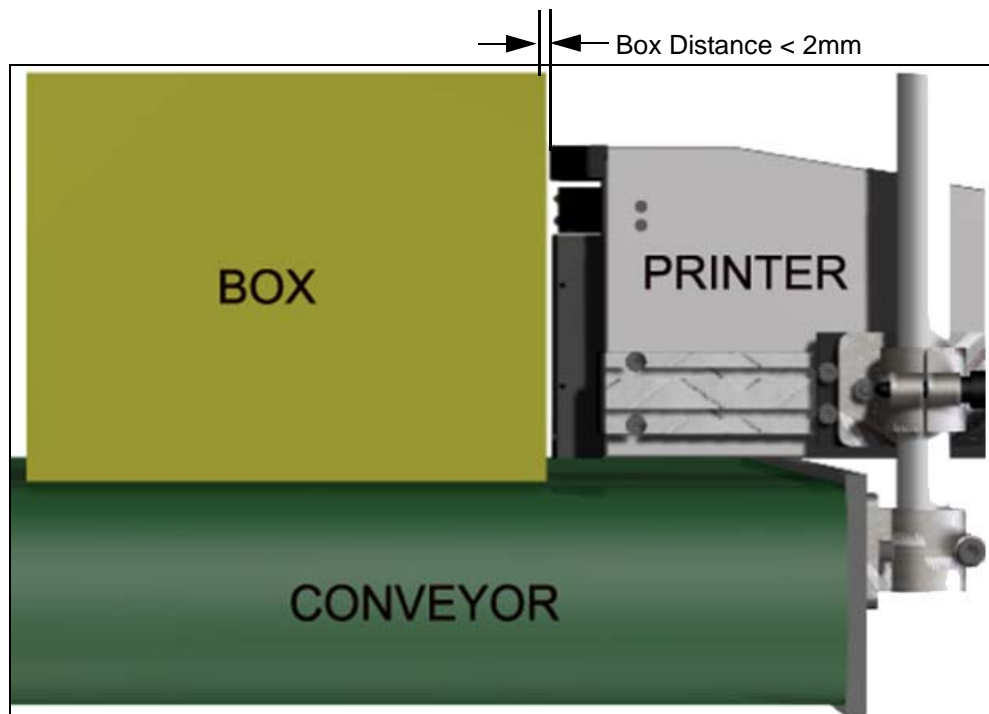


Figure 4-17: Box Distance

Clean the Printhead

If the print quality decreases, the **A** and **B** buttons on the printer provide additional functions to clean the printer further (refer to Figure 4-18 and Figure 4-19).

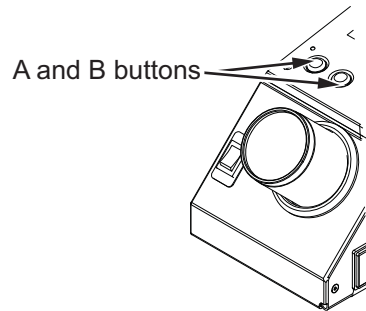


Figure 4-18: A and B Buttons - Videjet 2340

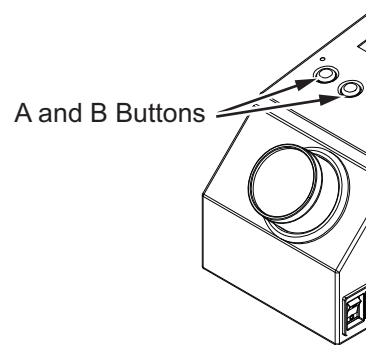


Figure 4-19: A and B Buttons - Videjet 2351 and 2361

Button 'A'



Caution

Do not touch or remove the nozzle plate or the jetting face of the printhead under any condition while you perform the procedures in this section (refer to Figure 4-20 on page 4-18 and Figure 4-21 on page 4-18).

When you can see bands of missing print across the print, the quality of the print has decreased and is no longer at an acceptable standard. You must press button A in this condition.

You can use the button for the following two purposes:

- Press the button for less than a second, then release to start the sequence of controlled purge.

A small quantity of ink that removes the dirt from the jetting orifices is purged through the printhead.

- Press and hold the button to activate a longer cleaning cycle. When the cycle begins, release the button A.

Note: This cycle must be used when shorter operation to clean the printer does not remove the blocks in the jets.

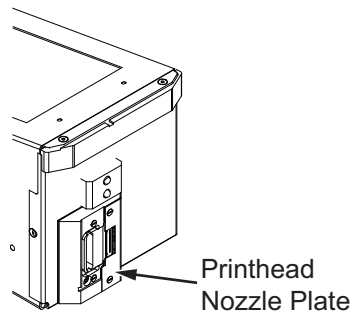
A larger quantity of ink that washes the printhead face is purged through the printhead jets. Then an air blast is used to remove excess ink.

Button 'B'

When you press the button 'B', the system uses the air to clear away any contamination on the printhead faceplate.

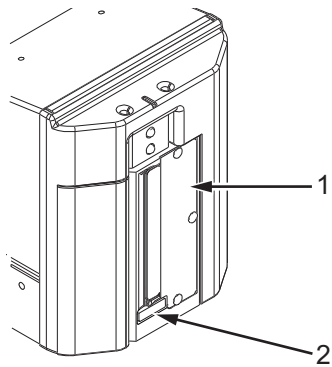
Press and hold the button B for some seconds to clean the printhead faceplate completely of any ink and dirt.

This method is best to remove any dirt following a visual inspection of the printhead.



Printhead
Nozzle Plate

Figure 4-20: Printhead Nozzle Plate -Videojet 2340



- 1. Printhead Nozzle Plate**
- 2. Debris Collection Pad**

Figure 4-21: Printhead Nozzle Plate -Videojet 2351 and 2361

Maintenance

Daily Maintenance

Total estimated time: 5 minutes

Note: Maintenance of the ink collector and drain channel needs to be carried out daily unless the debris pad is fitted. If the debris pad is fitted, these steps need to be carried out only when the warning alarm to change is raised.

To Clear Ink Collector Cup and Ink Drain Channel

Do the following tasks to clean drain channel.

- 1 Use a cleaning swab to remove the debris and ink build-up from the drain channel or from the space behind the cover.

Note: Use approved cleaning solution if ink build up or debris is difficult to remove.

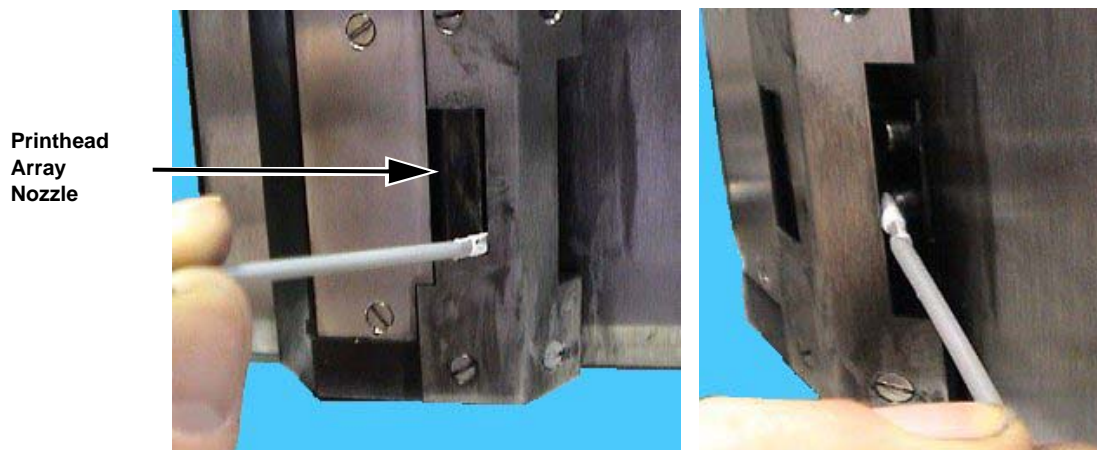


Figure 4-22: Drain Channel and Printer Cover Underside Cleaning (Videojet 2340)



Figure 4-23: Drain Channel Cleaning (Videojet 2351/2361)

- 2 This step is applicable only if debris collection pad is used:

The debris collection pad is a rectangular felt pad placed at bottom of collector cup to prevent the debris from clogging the restrictive element.

Note: The debris collection pad is optional and collection cup functions either with or without the pad installed.

- a. Carefully remove the old debris pad from the drain channel as shown in Figure 4-25. It is recommended to remove the debris collection pad with tweezers (Figure 4-24).

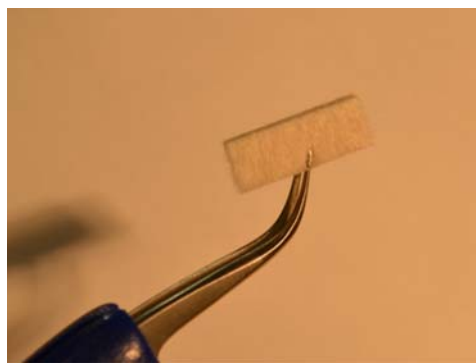


Figure 4-24: Tweezers for Pad Removal



Caution

The tweezer should be carefully inserted to remove the debris pad. Excessive insertion can damage the equipment behind the collection cup.



Figure 4-25: Debris Pad Removal (Videojet 2351/2361)

- 3 Use a new cleaning swab to remove the debris from the collector cup. Make sure that the hole at the bottom of the collector cup is not obstructed.



Figure 4-26: Cleaning the Collector Cup (Videojet 2351/2361)

- 4 This step is applicable only if debris collection pad is used:
 - a. Insert the new debris pad into the drain channel.



Figure 4-27: Debris Pad Inserted (Videojet 2351/2361)

- b. Navigate to *Consumables > FilterMonitoring* and click on *Reset Debris Pad Maintenance Period*. Click on *Yes* to reset the service maintenance period.



Figure 4-28: Removing the Debris Collection Pad

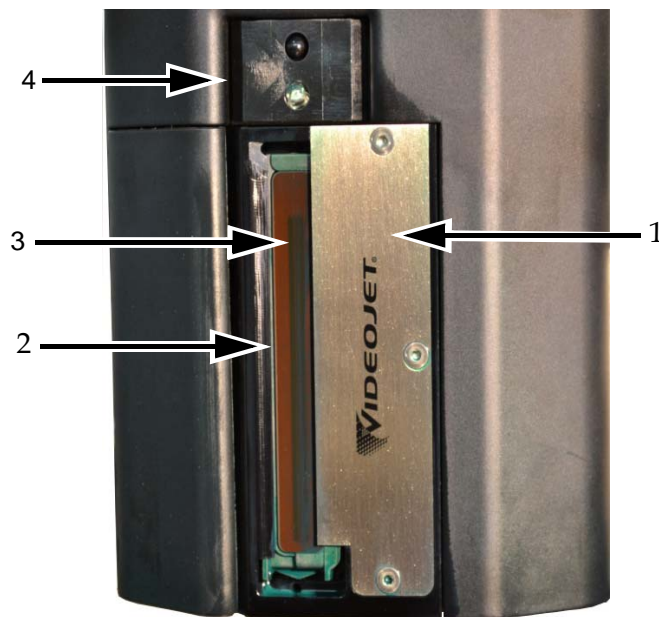
- c. The service maintenance period of the debris is reset. Clear the Warnings if present.

To Remove Excess Ink from the Printhead Surfaces

 **Caution**

PRINTER SAFETY. Do not touch the printhead array (nozzles) with a wipe or any other mechanical device.

- 5 Soak a lint-free wipe in the cleaning solution and gently wipe away the ink from the printhead covers and the air knife plate.



1. Air Knife Plate
2. Drain Channel

3. Printhead Nozzle Array
4. Printhead Cover

Figure 4-29: Printhead Assembly

Service Maintenance

Total estimated time: 15 minutes

To Remove Blockages from the Ink Collector Drainage Tube

Perform this procedure while replacing the reclaim filter during routine service. If the printer is in a dusty environment and the tube that drains the ink collector has become blocked, causing the ink collector to overflow, then perform this operation more often. The syringe is used to blow the obstruction out of the tube.

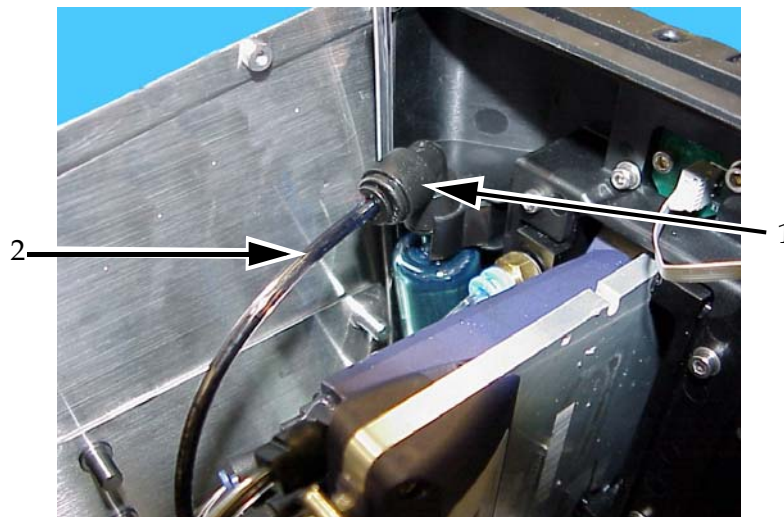
Note: If you are performing this procedure while replacing the reclaim filter, once the filter is replaced, inspect the filter after multiple purge cycles to make sure ink is reclaiming through the filter.



Warning

PERSONAL INJURY. Make sure to switch off, and disconnect the printer from the mains before performing maintenance activities.

- 1 Open the printer cover and remove the tube from the push-in fitting at the top of the ink reclaim filter.

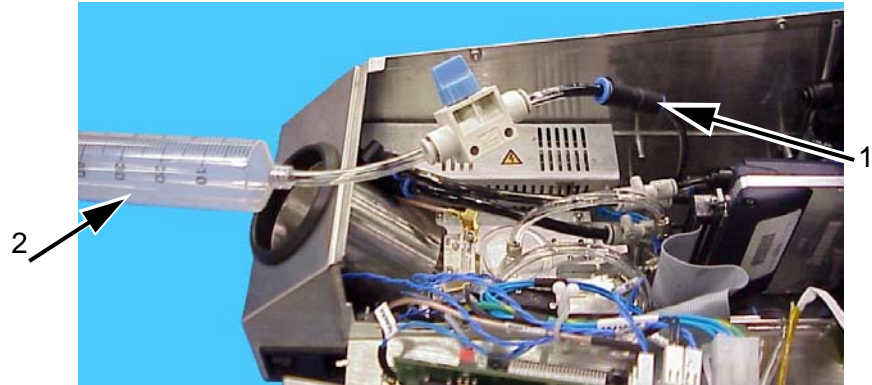


1. Reclaim Filter
2. Reclaim Tube

Figure 4-30: Reclaim Filter and Tube

- 2 Leave the valve tap closed (see Figure 4-32) and connect the syringe to the tube, as illustrated in Figure 4-31.

Note: The valve tap is shown in open position in Figure 4-31. The valve tap is left closed to prevent ink from being sucked out of the ink collector.



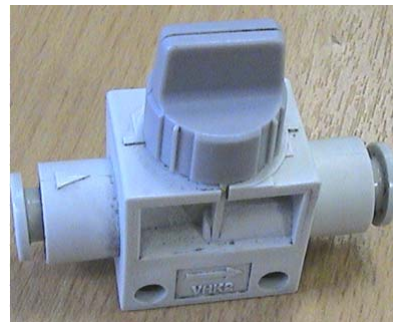
1. Reclaim Tube
2. Syringe

Figure 4-31: Syringe Assembly Plugged into Reclaim Tube

- 3 Open the syringe until it is charged with 50 ml of air. Open the valve tap (see Figure 4-32).



Valve Tap Closed



Valve Tap Open

Figure 4-32: Valve Tap Closed and Open

- 4 Place a lint-free wipe over the printhead front plate assembly to catch the debris.

- 5 Compress the syringe to force air out of the reclaim tubing through the collector cup. Repeat the procedure, to remove the remaining debris or blockage.

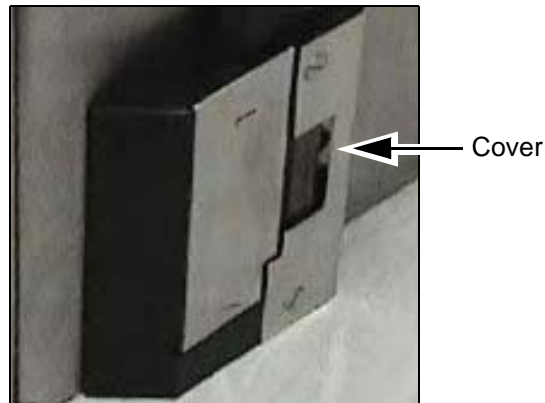


Figure 4-33: Printer Cover (Videojet 2340) Removed to Allow Ink to be Expelled

Note: After each cleaning, turn on the printer and take time to make sure the ink is reclaiming back into the reservoir by inspecting the reclaim collector cup and reclaim filter. After multiple purges, use a light to make sure that the ink is moving through the reclaim filter and no ink is standing in the collector cup.

Software Operations

5

This chapter contains the following topics:

- Select a Job for Printing
- Variable Information
- Information about Current Job
- Enable or Disable the Print (On-Line/Off-Line)
- Print Position Adjustment
- Self Cleaning Frequency of Operation
- Warnings and Fault Messages
- Set the Correct Time and Date
- Select the Correct Language

Select a Job for Printing

Introduction

When the printer is in *Running*, *Offline* or in the *Shutdown* status, you can select a new print image or job. You can select, edit and see the image on the WYSIWYG display before printing the image.

Touch the *OK* icon to replace the current image with the new job.

If you must cancel the process of job selection, touch the *Cancel* button or the *Home* button (refer to Figure 5-6 on page 5-5).

Procedure

To select a job for printing, do the following tasks:

- 1 Touch the *Job* icon (Figure 5-1).

A *Job List* screen with the different jobs stored in the local memory is displayed (Figure 5-2 on page 5-3).

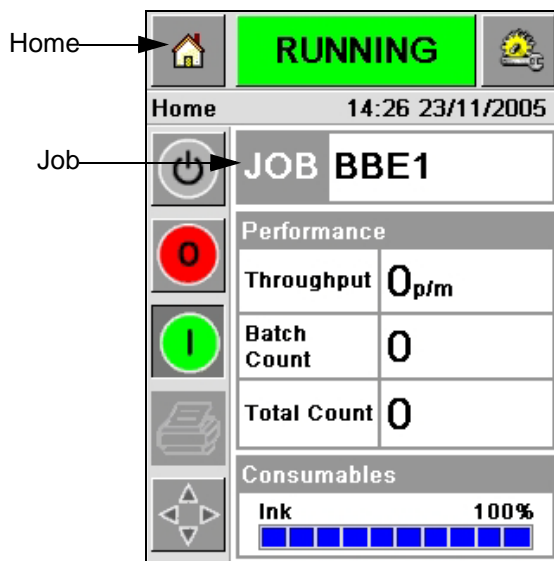


Figure 5-1: Job Icon

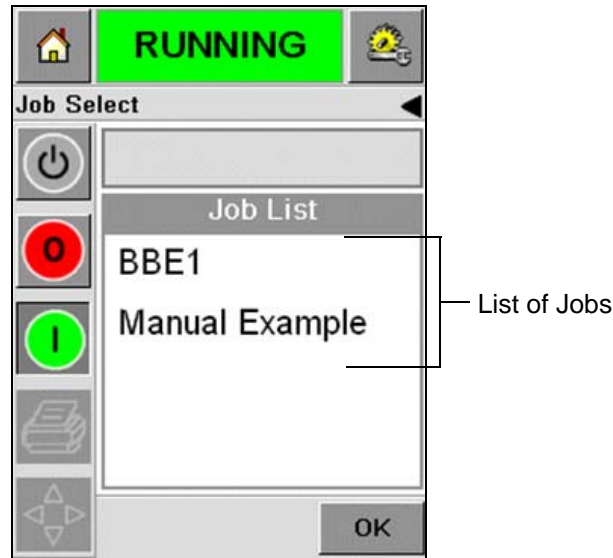


Figure 5-2: List of Jobs

- 2 If the job list is short, then Touch the job name and the name of the job is highlighted (Figure 5-3).

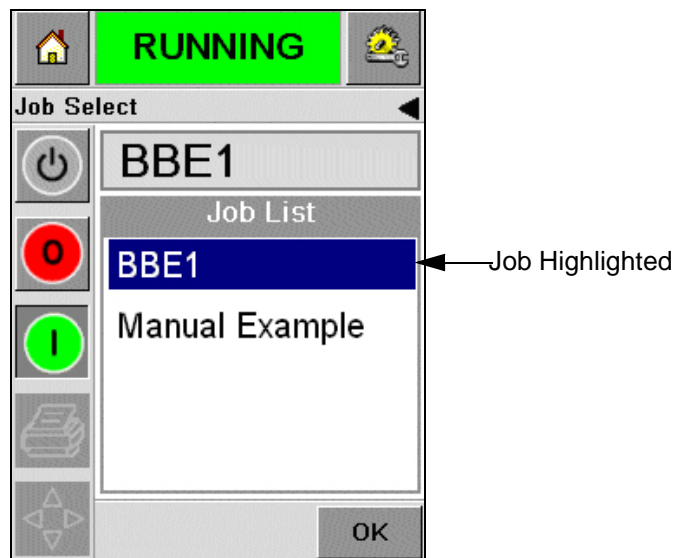


Figure 5-3: Job Selection

- 3 If the job database is large to fit into the screen, you can select the job in two methods:
 - A scroll bar appears (Figure 5-4 on page 5-4). The scroll bar helps you move up and down the database to see all the jobs and select the required job.
 - Touch the *Data Entry Pad* icon (Figure 5-4 on page 5-4). The *Job Select* screen appears with a data entry keypad (like a mobile phone). The job name is completed automatically as you begin to enter the

characters in the job name until you select the required job (Figure 5-3 on page 5-3).

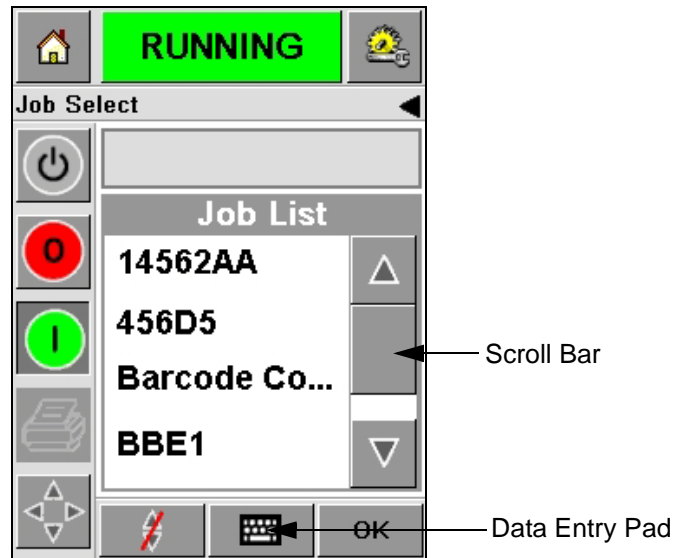


Figure 5-4: Scroll Bar



Figure 5-5: Job Selection Screens

- 4 When you select the required job, the CLARiTY displays a print preview of the selected job (Figure 5-6).

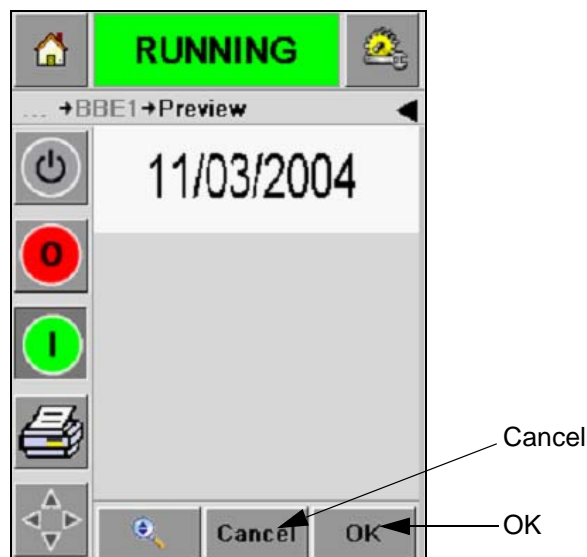


Figure 5-6: Job Preview

- 5 Touch the *OK* icon after the information displayed is correct (Figure 5-6). The printer starts printing the job.
- 6 If your job contains variable information, refer to “How to Change Variable Information” on page 5-6 for more information.

Variable Information

Introduction

If there are *Job Variables* (variable information fields) like a Batch Code on the selected Job, CLARiTY prompts to edit or enter these fields.

If there are any variable TEXT fields, CLARiTY displays them first.

The check box at the side of variable fields indicates the fields that are entered and fields that are not entered (Figure 5-7 on page 5-6).

A checkmark is added to the check box as you edit or enter the data in the CLARiTY. When all the boxes have a checkmark, you can continue to the next step.

To select the Job variable you require to change, touch the related prompt. This variable gets highlighted and display the default data in the data window (Figure 5-7 on page 5-6).

To change the variable text, touch the data window and use the data entry keypad.

The Figure 5-7 shows the Job Variables for the job **BBE1** and there is a DATE field variable only (for use as a Best Before End Date).

How to Change Variable Information

Do the following tasks to change the default data for the DATE field variable in the Job **BBE1**:

- 1 If the default date displayed in the data window (11 March 2004) is correct, touch the **OK** icon and this date is printed (Figure 5-7).

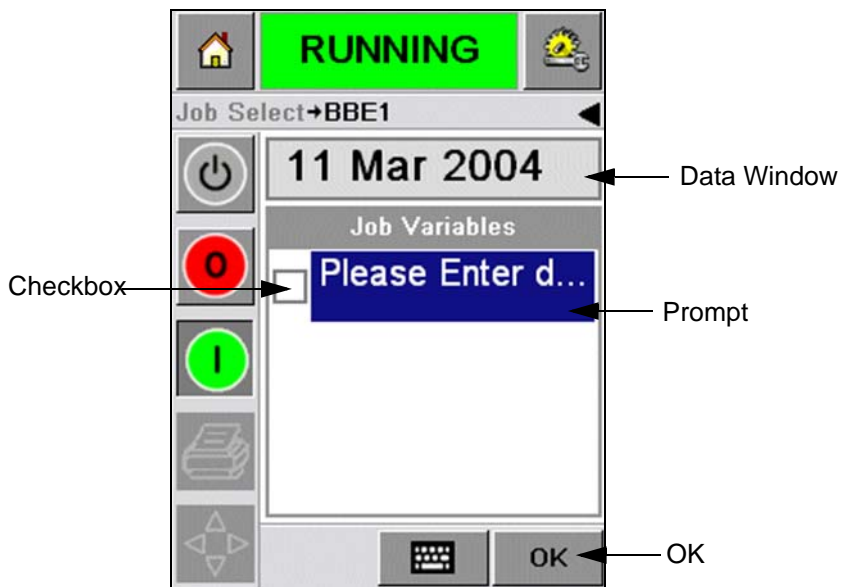




Figure 5-7: Job Variables

- 2 Touch the data window or the data entry pad to move to the calendar screen if you want to change the date information (Figure 5-8).



Figure 5-8: Calendar Screen

- To change the month and the year, touch the  and  buttons until the correct month, and year is reached.
- To select a day of the month, touch the date.

Note: The red box in Figure 5-8 displays the current date and the blue background displays the date selected for printing. The dates that are not available for selection are in grey box.

- 3 Touch the OK icon and the data information is changed. If you have many dates in your Job, repeat the steps one and two for each date.

- 4 The CLARiTY automatically returns to the Job variables list where the check box for the date field is checked (Figure 5-9).



Figure 5-9: Checked Box

- 5 Touch the OK icon and continue to the WYSIWYG Preview screen (Figure 5-10). Use the Zoom icon to see a bigger image.



Figure 5-10: Preview

- 6 Check the Job for correct data and touch the OK icon.
The printer prints all the products with the new job information.
You can touch the OK icon else, you can touch the *Cancel* icon or the *Home* icon to return to the start.

Information about Current Job

The Home screen displays the name of the current job (Figure 5-11). Touch the job name on the screen and the WYSIWYG information of the job is displayed.



Figure 5-11: Job Name

The example below displays the job that the 2340, 2351 and 2361 printer is printing. The job is shown in the WYSIWYG display (Figure 5-12). Use the *Zoom* icon to see a bigger image.

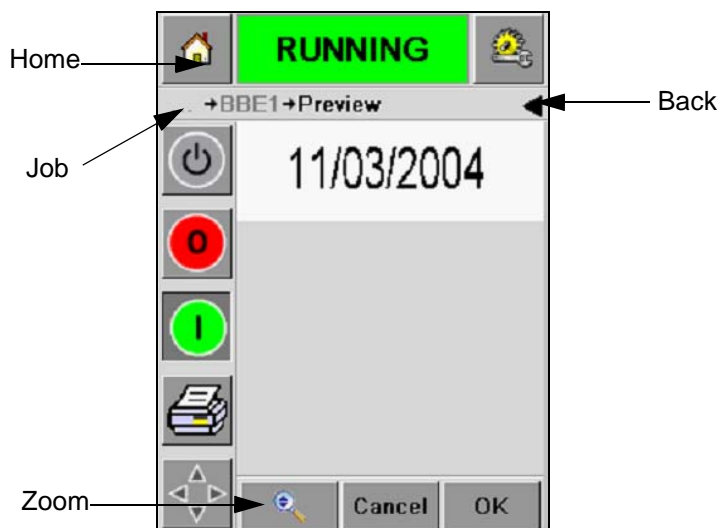


Figure 5-12: Zoom Button

Touch the *Back* or *Home* icon (Figure 5-12) to return to the Home screen.

Enable or Disable the Print (On-Line/Off-Line)

To enable the printer, touch the *Run* (green) icon and the printer status bar changes to *Running* status (Figure 5-13).

To disable the printer, touch the *Stop* (red) button (Figure 5-13) and the printer status bar returns to *Offline* status.

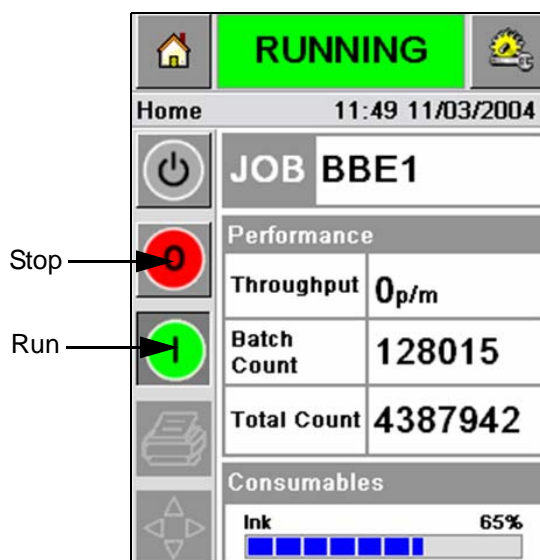


Figure 5-13: Enable and Disable Printing

Note: If the print sensor is activated when the printer is in *Offline* status, the printer will not operate.

Note: If the print sensor is activated when the printer is in *Online* status, the printer starts the print and performs all activities normally.

When the printer is in *Online* or *Offline* status, you can perform the following activities:

- Select a new job
- You can add the ink
- Examine the printer parameters
- Clean the printhead with the buttons **A** and **B** (“Clean the Printhead” on page 4-16).

Print Position Adjustment

To adjust the position of the print with reference to the front edge of the box, do the following tasks:

- 1 Navigate to *Tools > Setup > Printhead* in the Home screen. The *Printhead* setup screen appears (Figure 5-14).

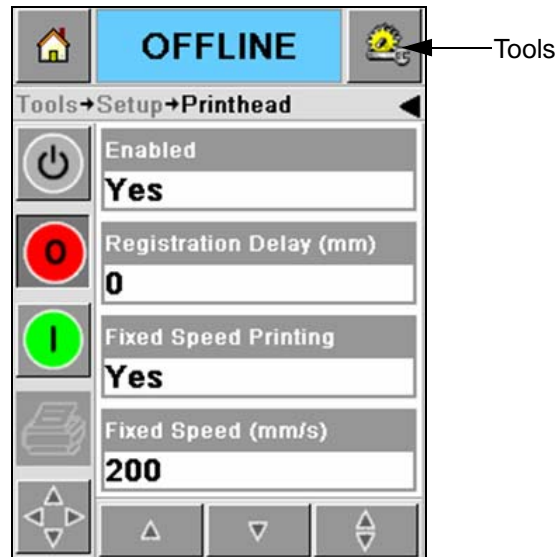




Figure 5-14: Printhead Setup Screen

- 2 Touch the *Registration Delay* icon. Enter the new print position (in millimeters) with the keypad (Figure 5-15 on page 5-12).

Follow any of the below methods to make the adjustments:

- Touch the  and  buttons to make small adjustments in the position.
- Touch the data entry pad icon and use the pad to enter a new number (Figure 5-16 on page 5-12).
- Enter the *Min*, *Max* or *Default* values (Figure 5-17 on page 5-13).

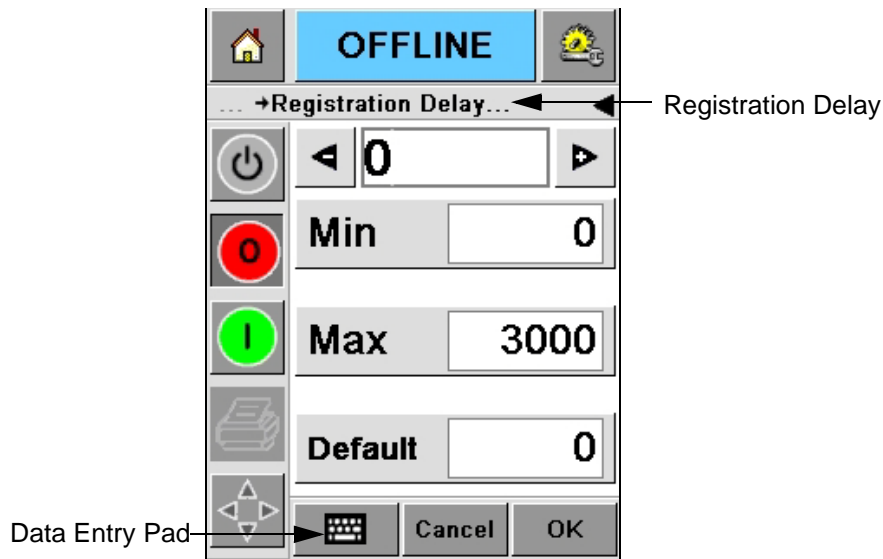


Figure 5-15: Registration Delay

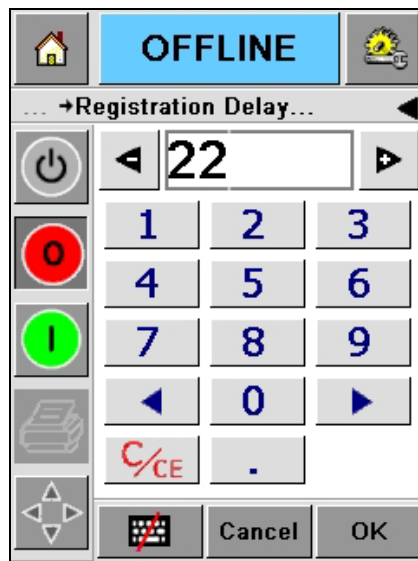


Figure 5-16: Registration Delay - Keypad

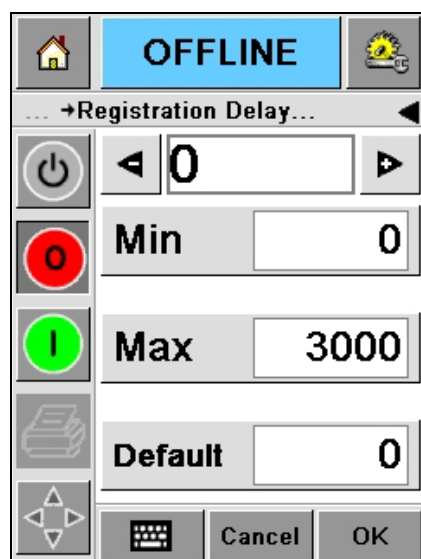


Figure 5-17: Min, Max and Default Values

- 3 Touch the OK icon to set the new position.

Note: Smaller values move the print closer to the front edge of the product. Larger values move the print away from the front edge.

Self Cleaning Frequency of Operation

If a remote print sensor is used, the 2340, 2351 and 2361 printer has the ability to clean the printhead by itself before every box. The filter life increases if the printer cleans the printhead after every tenth box (default setting). However, if the setting is such that the cleaning takes place for more than 10 boxes, it will result in higher filter life.

Note: During the cleaning operations, the ink is returned to the ink reservoir and used again.

If the printer operates in a very dirty environment, the self cleaning cycle must be performed more number of times. This process maintains good print quality and the long life of the printhead.

The printer includes a parameter with the name *Prints per Cleaning Cycle* that you can configure. The parameter helps to set the self cleaning cycle according to the factory environment. The default value is set at 10.

Do the following tasks to enter the *Prints per Cleaning Cycle* value:

- 1 Navigate to *Tools > Setup > Printhead* and scroll below to reach the *Prints per Cleaning Cycle*. Enter the required value (Figure 5-18 on page 5-14).

- 2 Touch the *OK* icon followed by the *Home* icon.

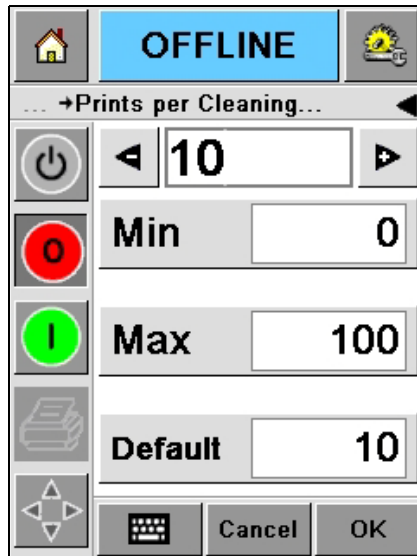


Figure 5-18: Prints per Cleaning Cycle

Warnings and Fault Messages

When a Warning or a Fault condition occurs, the CLARiTY displays the related message at the top of the screen (Figure 5-19).



Figure 5-19: Warning Message

Warnings

The CLARiTY displays all the Warning messages with an amber color in the background (Figure 5-19 on page 5-14). When in a Warning condition, the printer continues to operate.

When you touch the Warning message area on CLARiTY, instructions to clear the message are displayed.

The Figure 5-20 shows the ink low warning and gives the instructions to clear the Warning sign by replacement of the empty ink canister with a new canister. Follow the instructions displayed on the screen to clear the Warning.

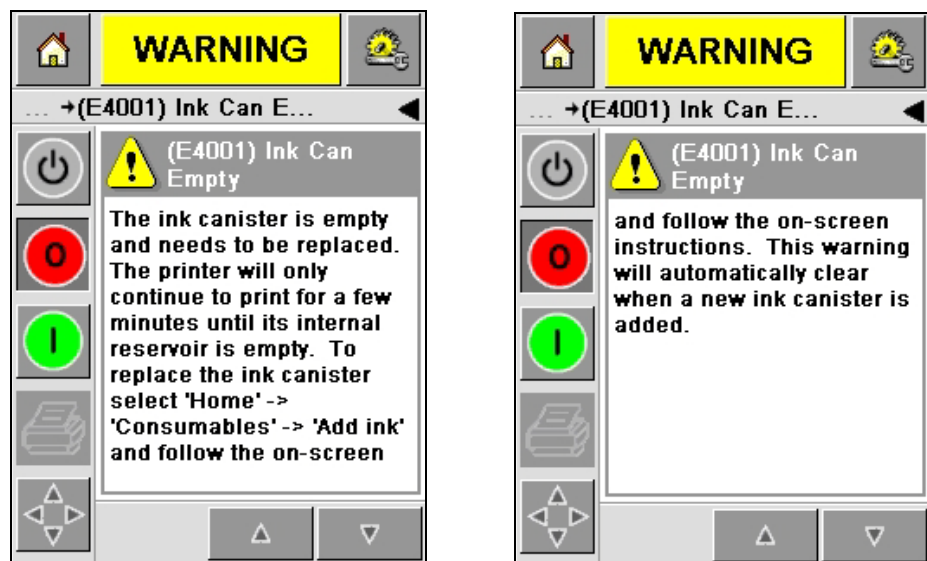


Figure 5-20: Ink Low Warning

Faults

The CLARiTY displays all the Fault messages with a red color in the background (Figure 5-21). During a Fault condition, the printer does not operate until the Fault is cleared. You can see in Figure 5-21 that the ink canister is empty.

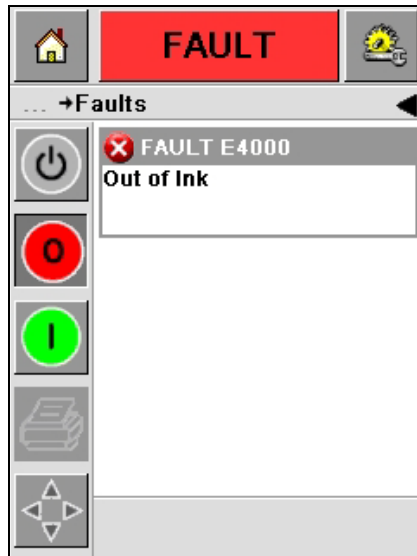


Figure 5-21: Fault

The printer Fault output changes the status of the printer. If you can link the fault status to the production line then, the printer can stop the line. The above interlock helps the customer to make sure that the printing is done on all the products.

Note: The LED below the CLARiTY Operator screen flashes (red) until the fault is cleared and the printer starts printing.

Touch the Fault message area and the CLARiTY screen displays some instructions.

The example in Figure 5-22 on page 5-17 shows that there is no ink in the printer. The instructions on the screen tells you how you can add a new ink canister and clear the Fault on the CLARiTY screen (Figure 5-22 on page 5-17).

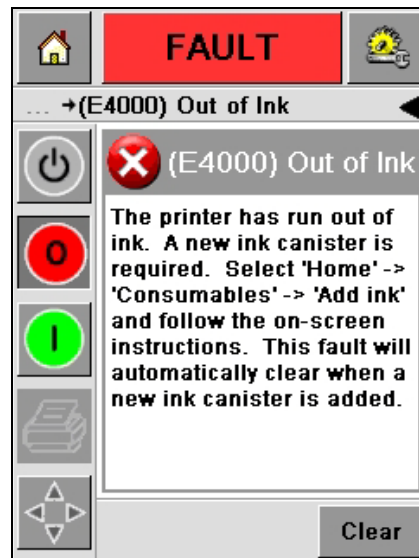


Figure 5-22: Out of Ink Fault

When the Fault message is cleared, then the printer returns to the offline state. The printer is now ready to go online and start printing again.

Set the Correct Time and Date

Do the following tasks to set the correct time and date at the CLARiTY screen:

- 1 Navigate to *Tools > Setup > Control* from the Home screen. The *Control Screen* appears (Figure 5-23).

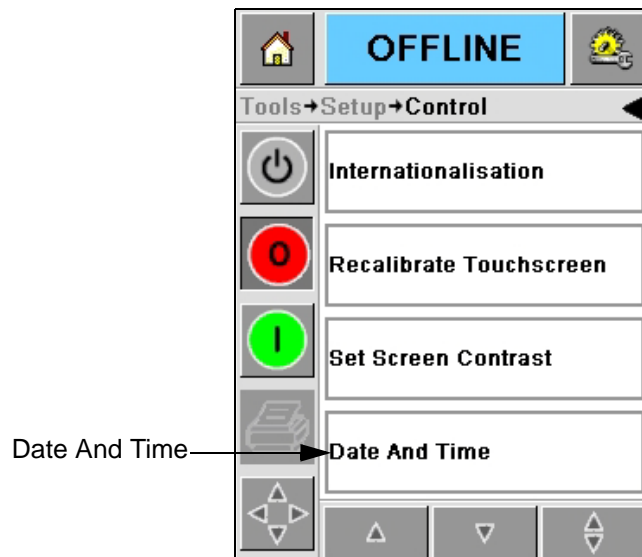




Figure 5-23: Control Screen

- 2 Select the *Date and Time* from the list displayed (Figure 5-23).
- 3 Touch *Date* and the calendar screen appears (Figure 5-24 on page 5-19).
- 4 Use the  and  buttons to select the current month and year.
- 5 Touch and select the current date from the calendar.

- 6 Touch the *OK* button.



Figure 5-24: Calendar Screen

- 7 Touch the *Time* icon and the time screen appears (Figure 5-25).

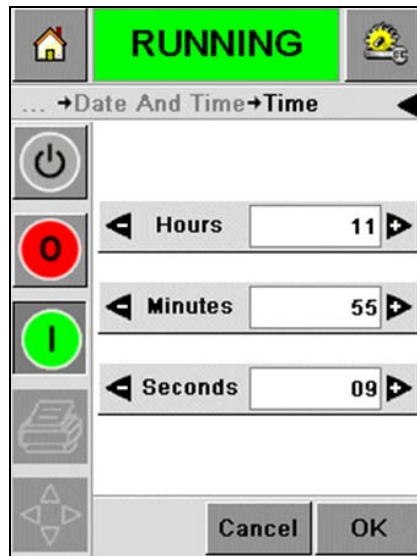




Figure 5-25: Time

- 8 Use the  and  keys to set the *Hours*, *Minutes* and *Seconds*.
- 9 Touch the *OK* button.
- 10 Touch the *Home* icon to return to the Home screen.

Select the Correct Language

The CLARiTY has the ability to display all screens in different languages and date codes in the format for that country.

For example: Month Day Year for USA and Day Month Year for UK.

Do the following tasks to select the language:

- 1 Navigate to *Tools > Setup > Control > Internationalisation* and the *Internationalisation* screen appears (Figure 5-26).

The current language is displayed.



Figure 5-26: Internationalisation Screen

- 2 Touch the *Language* icon and select the language you require from the list. The selected language is highlighted (Figure 5-27).



Figure 5-27: Language Selection

- 3 Touch the *OK* icon.
- 4 Select the *Region/Country* icon to select the region or the country (Figure 5-26 on page 5-20).
- 5 Select the region required (Figure 5-28) and touch the *OK* icon.



Figure 5-28: Region/Country

- 6 Touch the *OK* icon.
- 7 Touch the *Home* icon to return to the Home screen.

Schematic Diagrams and Dimension Drawing

A

This chapter contains the following Schematic Diagrams:

- Electrical Specifications
- Environmental Specifications
- Videojet 2340 Outline
- Videojet 2351 Outline
- Videojet 2361 Outline

Electrical Specifications

The electrical specifications of the printer are shown in Table A-1.

Voltage	100 V AC to 240 V AC
Frequency	50 to 60 Hz
Power Consumption	140 Watts Maximum

Table A-1: Electrical Specifications

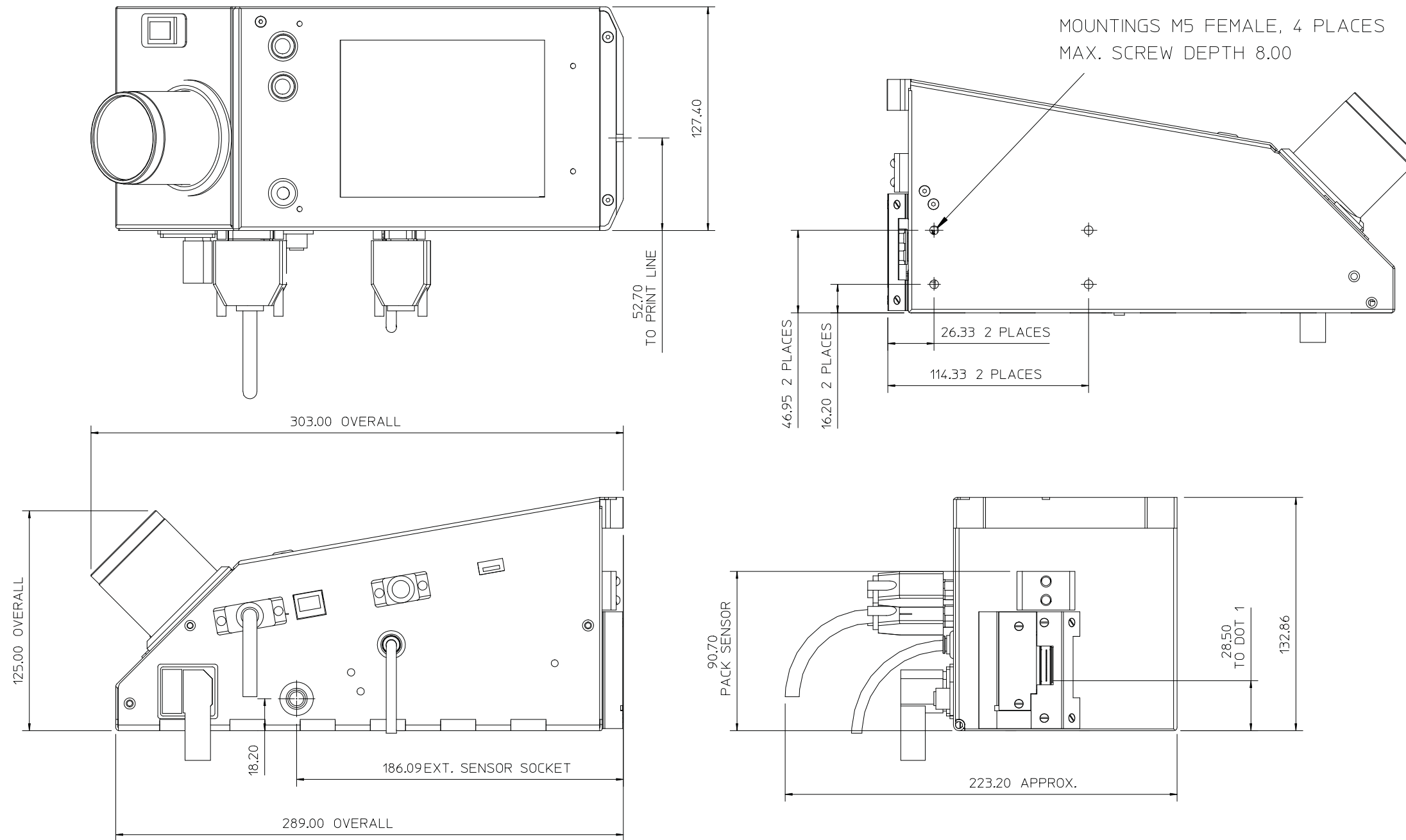
Environmental Specifications

The environmental specifications of the printer are shown in Table A-2.

Operating Temperature	10°C - 35°C (50°F - 95°F)
Humidity Range	10% to 80% relative humidity, non-condensing
Acoustic Emission	less than 70dBA

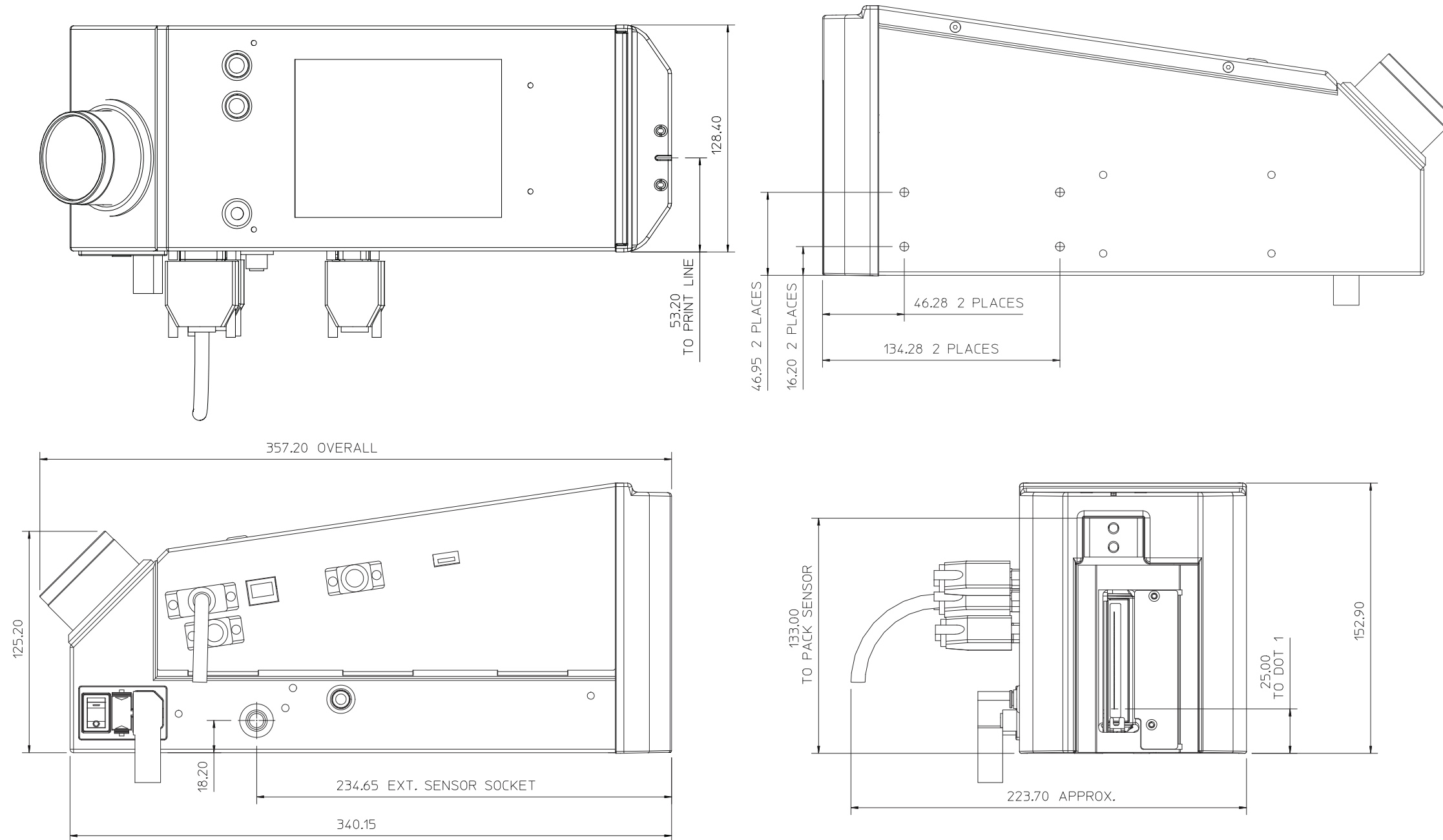
Table A-2: Environmental Specifications

Videojet 2340 Outline



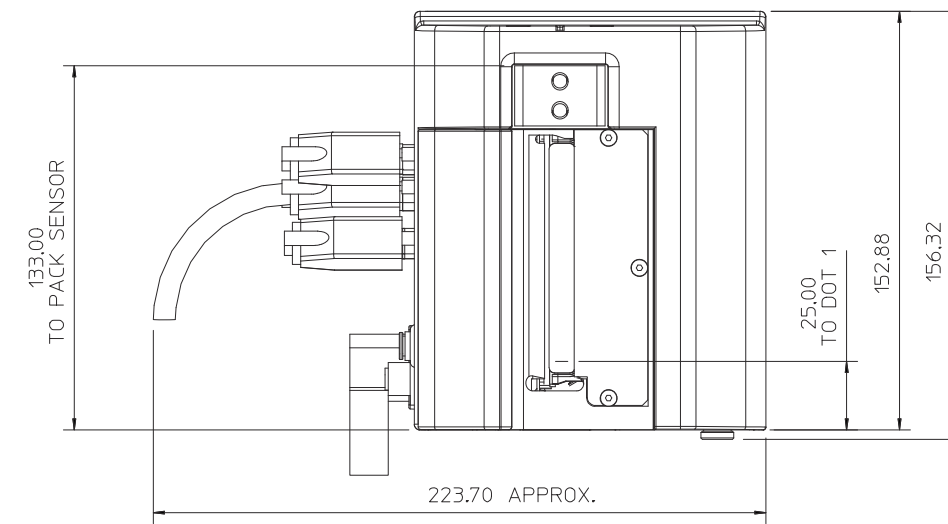
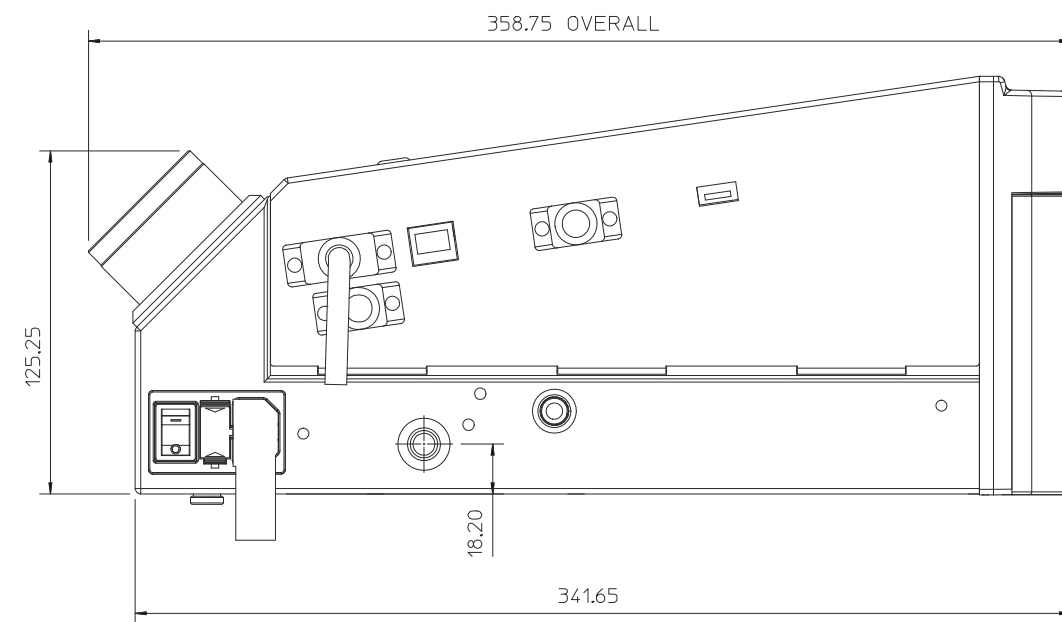
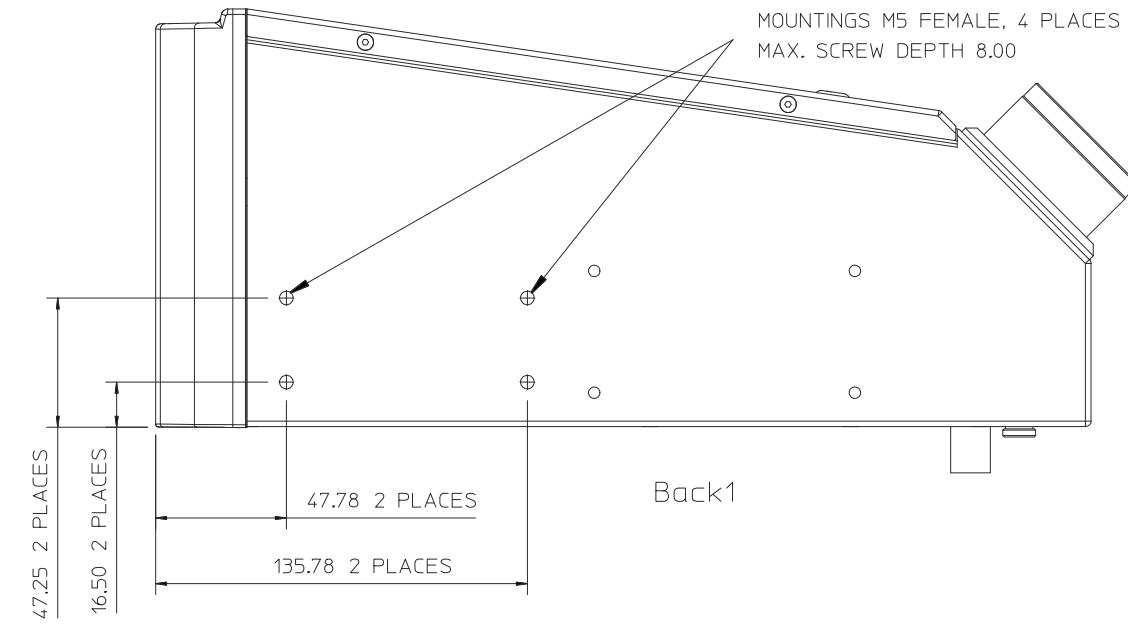
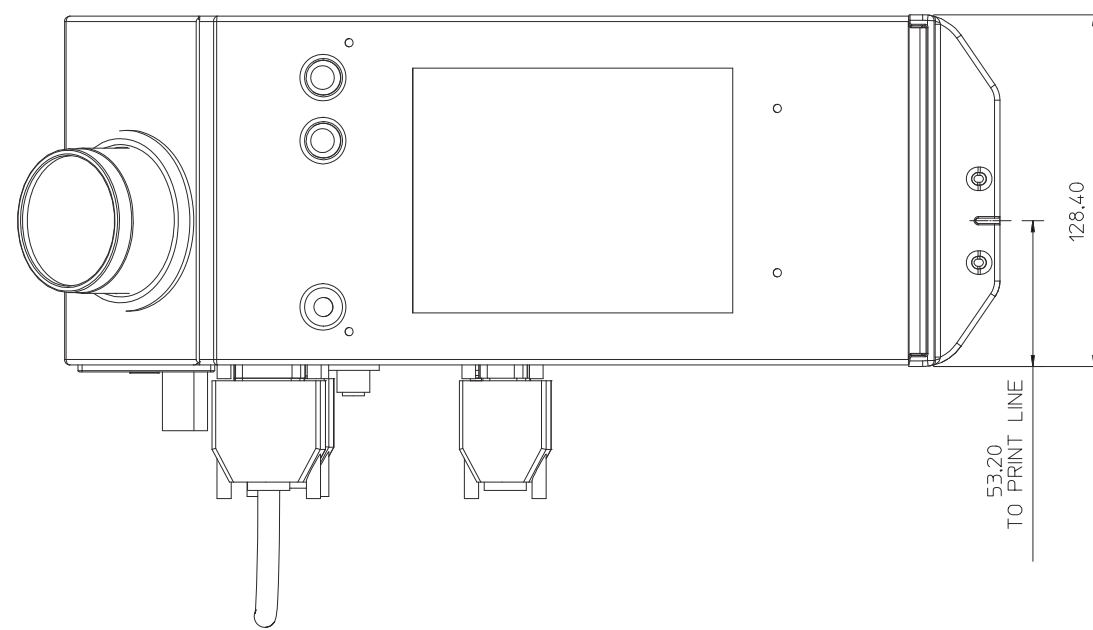
NOTE: ALL DIMENSIONS ARE IN MM

Videojet 2351 Outline



NOTE: ALL DIMENSIONS ARE IN MM

Videojet 2361 Outline



NOTE: ALL DIMENSIONS ARE IN MM

Master/Slave Junction Box I/O Connection

I/O Connector 15-way D pin #	Ink jet Printer	Signal Type
1	+24 V	AUX Power Out
2	Product Sensor I/P	PNP (Sw to +24 V)
3	0 V	AUX Power Out (GND)
4	Line Select 0 I/P	PNP (Sw to +24 V)
5	Line Select 1 I/P	PNP (Sw to +24 V)
6	Line Select 2 I/P	PNP (Sw to +24 V)
7	Fault O/P (COM)	Volt-free relay contact
8	Fault O/P (N/O)	Volt-free relay contact
9	Warning O/P	Solid State PNP (+24 V Switched)
10	Spare O/P	Solid State PNP (+24 V Switched)
11	Line Strobe I/P	PNP (Sw to +24 V)
12	0 V	
13	Line Select 3 I/P	PNP (Sw to +24 V)
14	Encoder B I/P	Push/Pull +24 V
15	Encoder A I/P	Push/Pull +24 V

Table A-1: Master/Slave Junction Box I/O Connection