



HP Scitex FB10000

Site Preparation Guide

English Version | Revision 2



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Conventions

The safety hazard warning conventions used in this guide (and supplementary HP Scitex FB10000 Industrial Press documentation) are provided for the identification of safety hazards. They are used to identify conditions or actions for which a specific hazard is known to exist, and that may, cause personal injury and/or equipment malfunction.

The conventions are classified into the following categories: **Danger** and **Caution**. Examples are shown below:

Danger



Danger indicates a hazard with a high level of risk which, if not avoided, could result in death or serious injury.

Caution



Caution indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury, and/or damage to the equipment.

Other Conventions

The following conventions are used to draw your attention to important points which are beyond or in addition to the regular information in this book:

Note



Notes are used to identify an explanation, or provide additional information for purposes of clarification.

Tip



Tips provide useful shortcuts or recommendations.

Reference



References are provided to refer you to further information in this document or another guide.

Revision History

The following table briefly describes the major changes in the HP Scitex FB10000 Site Preparation Guide since the initial release in October 2013.

Revision 2 — June 2014
Updated the Site Preparation Specifications Summary on page 8.
Removed note about attaching an extraction pipe to the unified cooler on page 13.
Made major revisions to Electrical Requirements on page 28.
Added new section about Connecting the Mains on page 35.
Made major revisions to ambient lighting requirements in Lighting on page 39.
Added temperature and humidity requirements for machine peripherals in Temperature and Humidity on page 40.
Added new section about Handling Substrates on page 41.
Added instructions regarding the temperature around the unified cooler in Heat Dissipation on page 42.
Removed option to connect extraction pipe to the outlet on top of the unified cooler on page 42.
Updated the description of the silencer for the UV extractor on page 47.
Removed GMG from the list of supported RIP Applications on page 49.
Updated the table in Unloader Pit Specifications on page 54.
Added new section about the Lift Release Handle on page 57 for the unloader lift.
Added new section about Lifting the Main Machine Frame Crate with a Forklift on page 64.
Added new section about Returning the Shipping Brackets on page 72.
Added item about drilling into the floor to the Site Readiness Checklist on page 76.
Revised the FB10000 Layout on page 78 to include space requirements for a possible future upgrade to the HP Scitex 15000 Corrugated Press.

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About This Guide

This guide is intended for customers installing the HP Scitex FB10000 Industrial Press, printer operators, HP Service personnel and HP dealers.

This document guides the customer through the site preparation required prior to receiving and installing the HP Scitex FB10000 Industrial Press. It details site preparation instructions, including important environmental and safety considerations, to help ensure the proper and safe installation and operation of the printer.

The installation cannot commence until site construction and/or modifications (if applicable) have been fully completed, in consultation with an authorized HP representative.

HP representatives supervise the unloading, unpacking, transfer and placement of the printer at its final destination, and perform the installation process.



Note To ensure proper installation, all procedures contained herein, unless otherwise specified, must be performed prior to the arrival of the main shipment at the customer's site.

Do not unload and/or unpack the system without the presence of an HP-authorized representative.

Although considerable effort has been made to provide accurate and complete information, it is the responsibility of each customer to verify full compliance with local fire and occupational safety regulations.

HP Scitex FB10000 Industrial Press

The HP Scitex FB10000 Industrial Press is comprised of the following components:

- Press (including the loader)
- IDS cabinet (including the LEC – left electrical cabinet; the IDS cabinet is attached to the machine main frame during installation)
- UV electrical cabinet
- Unified cooler
- UV extraction fan
- Vacuum pump
- Loading table
- Unloader lift

The HP Scitex FB10000 Industrial Press is shown in [Figure 1-1](#) and [Figure 1-2](#).

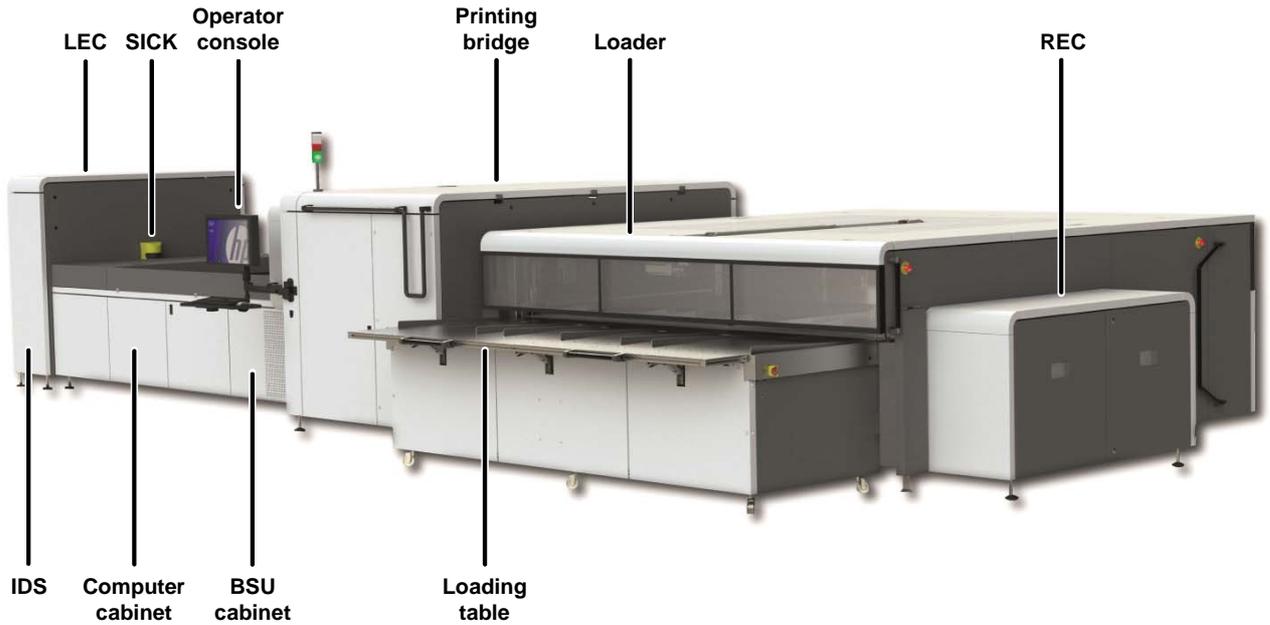


Figure 1-1 HP Scitex FB10000 Industrial Press System Main Components (front view)

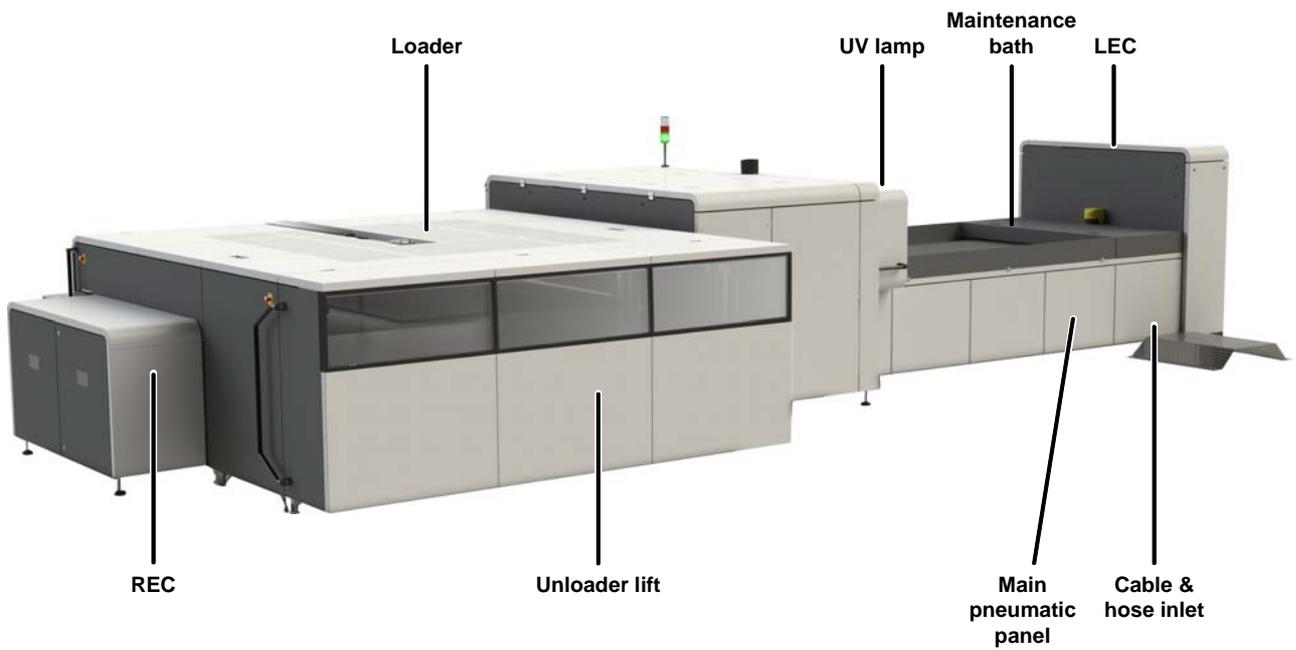


Figure 1-2 HP Scitex FB10000 Industrial Press System Main Components (rear view)

For more information about additional components, see [HP Scitex FB10000 Industrial Press Additional Components](#) on page 13.

Site Preparation Overview

The information provided in this guide covers all aspects of HP Scitex FB10000 Industrial Press site preparation, and has been included to assist in the following planning considerations:

- Modifications to the installation area, if required.
- Accessibility to the site; providing suitable access through driveways, corridors, doorways, and loading bays.
- Provision of suitable emergency exits to which unimpaired access may be maintained at all times.
- Planning the print production area with sufficient space around and above the printer.
- Proper location of the FB10000 peripheral components to facilitate efficient and smooth workflow.
- Climate and environmental conditions (temperature, humidity, and dissipation) should be controlled.
- Ventilation of the print production area and provision of air control extraction system.
- Electrical and pneumatic requirements.
- Provision for overhead conduits or floor channeling, for cables and air lines running to the printer.
- Computer and network connectivity.
- Contracting the services of a professional carrier with a heavy duty crane and forklift.
- Safety requirements (first aid station, emergency eye wash station, fire-fighting equipment, etc.).
- Storage area for media, inks, and solvents, that is clean, dry, ventilated, and protected from ultra-violet rays.
- If the installation includes additional equipment or optional accessories (for example, storage of additional substrate collectors), they should be taken into consideration.

For a list of the site preparation activities for which the customer is responsible, see [Customer Responsibilities](#) on page 7.

All information in this guide is provided on the assumption that installation planners and personnel are familiar with:

- Special architectural and planning requirements.
- National and local electrical wiring codes.

Installation Time Schedule

The optimal time required for installing the HP Scitex FB10000 Industrial Press system is **10** working days:

1st week - Leader and one HP Scitex Customer Engineer (CE)

2nd week - Leader and Application Specialist

This is based on the assumption that all system parts have been delivered in proper working order, and that all site preparation and planning requirements have been met and completed, in accordance with the specifications and recommendations provided in this guide.

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Site Preparation Specifications Summary

Table 2-1 provides a summary of important site preparation requirements for the HP Scitex FB10000 Industrial Press. It is the customer's responsibility to prepare the site according to the specifications in this table **before** machine delivery.



This table is provided as a handy visual aid when preparing the site. It is not intended as a substitute for a thorough review of the complete contents of this Site Preparation Guide.

Table 2-1 Summary of Site Preparation Specifications

Safety		
Fire extinguishers	Two CO ₂ extinguishers.	See Fire Hazard on page 16.
Waste disposal	According to local regulations.	See Waste Disposal on page 17.
Eye wash station	Suitable station within 15 m (49 ft.) of print production area.	See Provision for an Eye Wash Station on page 18.
First aid equipment	According to local regulations.	See Provision for First Aid Treatment on page 18.
Site Readiness		
Unloading area	Sufficient area for two large trucks and a heavy-duty crane.	See Unloading Area on page 22.
Minimum pathway for installation	Doorway dimensions: <ul style="list-style-type: none"> • Minimum: 2.4 m (8 ft.) W x 2.5 m (8.2 ft.) H • Recommended: 3 m (10 ft.) W x 2.5 m (8.2 ft.) H 	See Pathway on page 22.
Machine delivery	Booking a professional rigging company with suitable equipment (heavy-duty crane, steel beam, chains, straps, forklift, and so on).	See Machine Delivery and Rigging on page 59.
Floor surface and strength	Smooth, flat surface capable of supporting 8200 kg (18077 lbs.) with maximum incline of 0.2%.	See Floor Surface and Strength on page 24.
Minimum recommended room dimensions	<ul style="list-style-type: none"> • Length: 15 m (49 ft.) • Width: 10 m (33 ft.) • Height: 3.5 m (11.5 ft.) 	See Planning the Print Production Area on page 20.
Electrical Requirements		
Number of power lines	2	See Electrical Requirements on page 28.

Table 2-1 Summary of Site Preparation Specifications

Site protection (amperage)	<ul style="list-style-type: none"> • 50 Hz: Printing unit: 75A, UV system: 90 A • 60 Hz: Printing unit: 75A, UV system: 80 A 	See Electrical Requirements on page 28.
Voltages	<ul style="list-style-type: none"> • 50 Hz: 3-phase 400 V (-5% /+10%) • 60 Hz: 3-phase 480 V, 400 V or 208 V (-5% /+10%) 	See Electrical Requirements on page 28.
Voltage spikes	+5% or -10%	See Power Line Disturbances on page 36.
Transformer	Step-up or step-down transformer (55 kVA) needed for sites that require 60 Hz, according to national authority electrical regulations.	See Connecting the Mains on page 35.
Pneumatic and Extraction Requirements		
Air compressor	<ul style="list-style-type: none"> • Operating pressure: 7-8 bar (101.5-117.6 psi) • Minimum flow rate: 1200 liters/min. (43 CFM) • Filtration: 5 microns • Reservoir size: 400 liters (106 gal.) 	See Air Compressor Requirements on page 39.
Air dryer	<ul style="list-style-type: none"> • Operating pressure: 7-8 bar (101.5-117.6 psi) • Minimum flow rate: 1200 liters/min. (43 CFM) • Dew point: 2°C (35.6°F) 	See Air Dryer Requirements on page 39.
Maximum tube/hose lengths	<ul style="list-style-type: none"> • Vacuum pump to machine: 15 m (49 ft.) • Bridge outlet to UV extraction inlet: 10 m (33 ft.) • UV extraction outlet to site extraction system: 10 m (33 ft.) 	See Positioning Peripheral Components on page 25.
Environmental Requirements		
Lighting	According to local regulations. Sunlight must be filtered to block 99.97% of UV light. Artificial sources of light should not have spectral peaks below 400 nm. Recommended lighting is fluorescent lights with plastic covers. Metal halide lighting should be replaced with fluorescent lighting or filtered accordingly.	See Lighting on page 39.

Table 2-1 Summary of Site Preparation Specifications

Site temperature	<ul style="list-style-type: none"> • Print production area: 17-30°C (63-86°F) • Peripheral components area: 17-30°C (63-86°F) • Media storage area: 10-40°C (50-104°F) • Ink storage area: 5-35°C (41-95°F) 	See Temperature and Humidity on page 40.
Site humidity	50-60%	See Temperature and Humidity on page 40.
Heat dissipation	As described in Table 4-14 .	See Heat Dissipation on page 42.
Unified cooler air flow	<ul style="list-style-type: none"> • Idle: 460 m³/h (271 CFM) • Printing: 2750 m³/h (1619 CFM) • Cool down: 8100 m³/h (4768 CFM) 	See Unified Cooler Air Flow on page 43.
Distilled water for unified cooler	50 liters (13.2 gallons)	See Unified Cooler on page 13.
Air exchanges	1800 m ³ /hr. (1059 CFM) in area surrounding the press	See Ventilation and Fume Extraction on page 45.
Networking Requirements		
Network connections	<ul style="list-style-type: none"> • RIP station to machine PC: RJ-45 Ethernet cable (20 m max. length) • Machine computer to customer network (internet) 	See Networking Requirements on page 48.
Open ports	Required for Call Me @ HP remote support.	See Call Me @ HP — Web Based Remote Support on page 50.
RIP Requirements		
RIP station hardware	Workstation that meets the RIP software specifications (PC/Mac).	See RIP Applications on page 49.
Unloader Pit Requirements (optional)		
Dimensions	Pit: 1640 x 3240 mm (65 x 128 in.) Lift: 1600 x 3200 mm (63 x 126 in.)	See Pit for Unloader Lift (optional) on page 53.
Depth	300 mm (11.8 in.)	
Tolerances (maximum allowed deviations)	<ul style="list-style-type: none"> • Floor flatness: 5 mm • Positioning: 10 mm • Slope: 5 mm from vertical 	
Floor strength	3 tons	
Cable exit hole diameter	120 mm (4.7 in.)	

HP Scitex FB10000 Industrial Press Machine Views

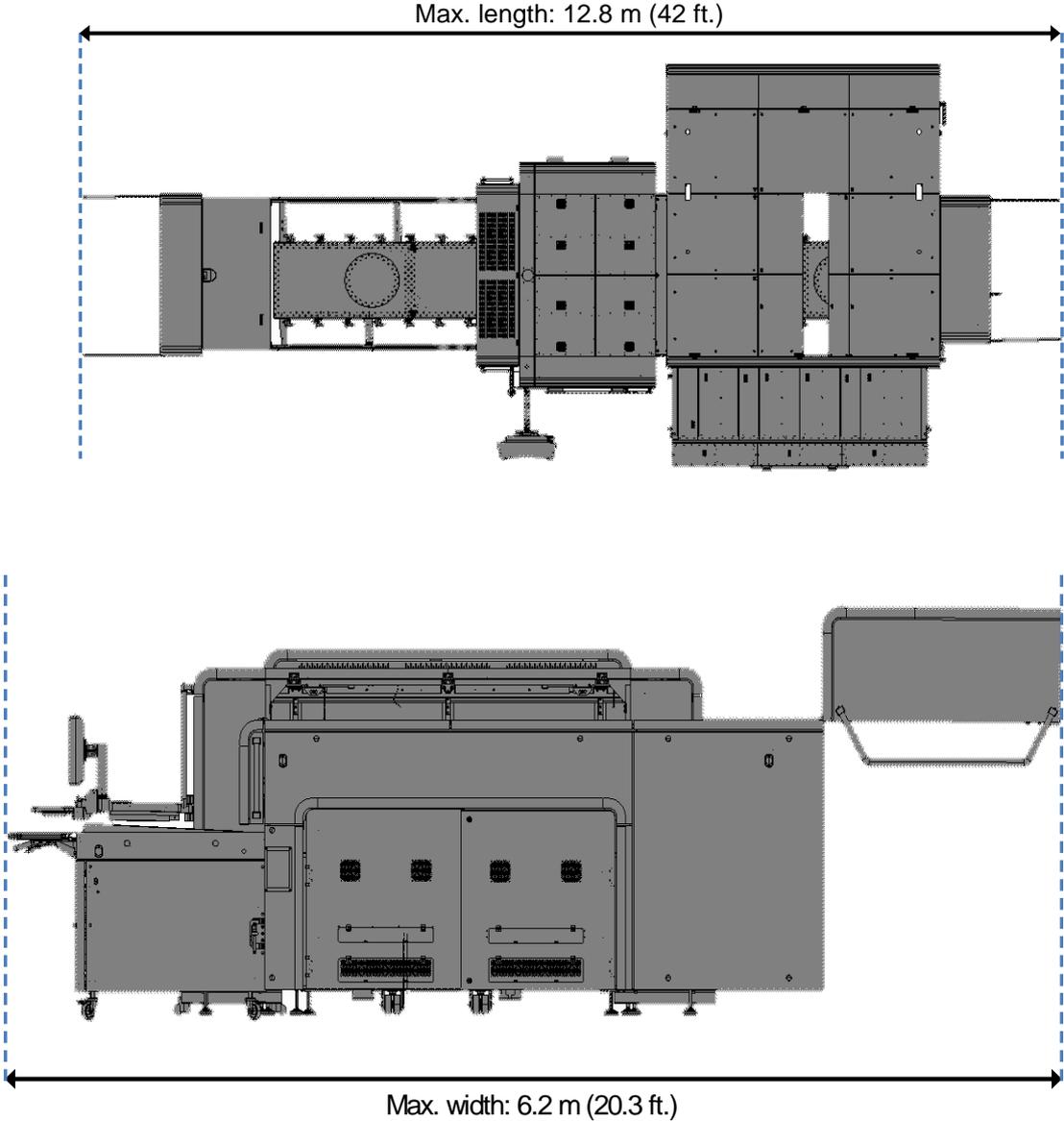


Figure 2-1 FB10000 Machine Views

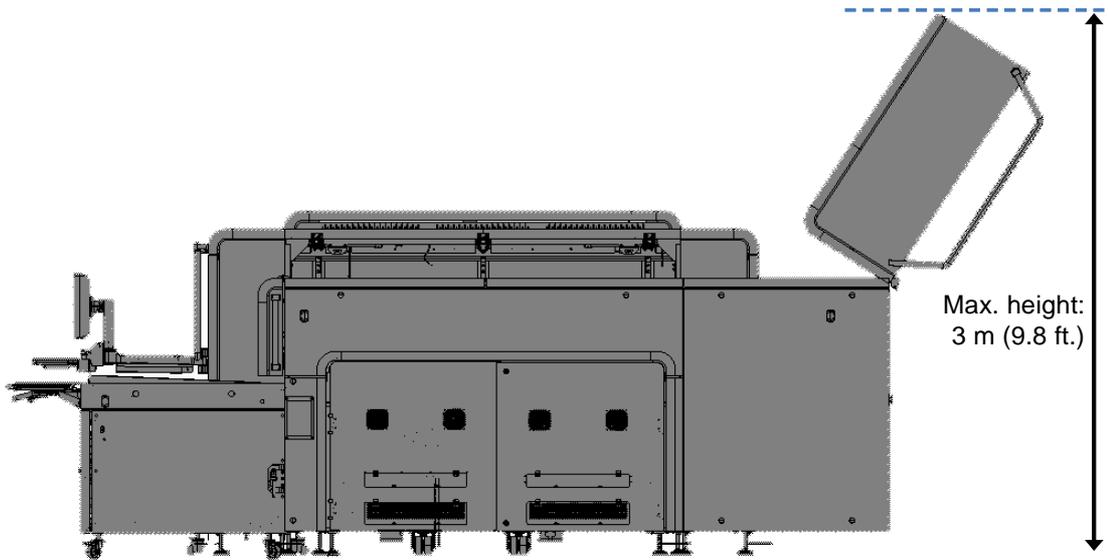
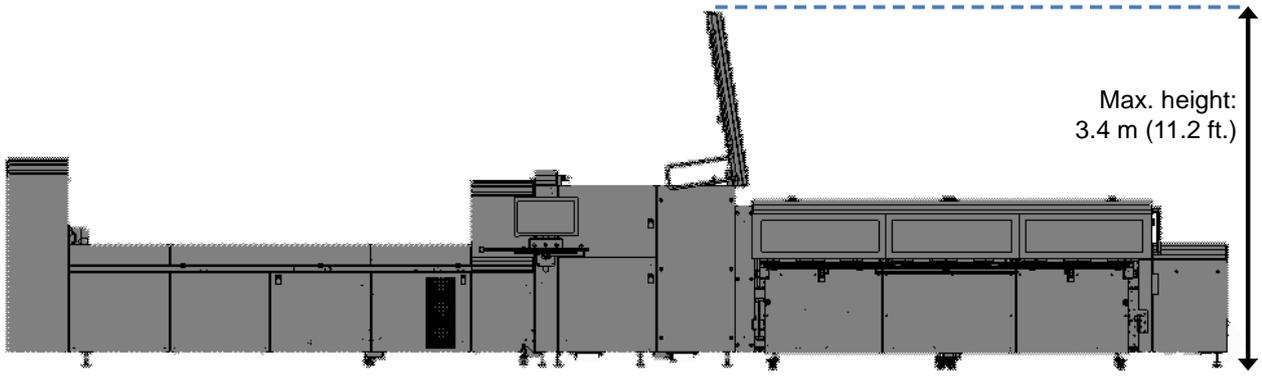


Figure 2-2 FB10000 Machine Views (cont.)

HP Scitex FB10000 Industrial Press Additional Components

Table 2-2 describes additional HP Scitex FB10000 Industrial Press components.

Table 2-2 Dimensions and Weight of HP Scitex FB10000 Industrial Press Components

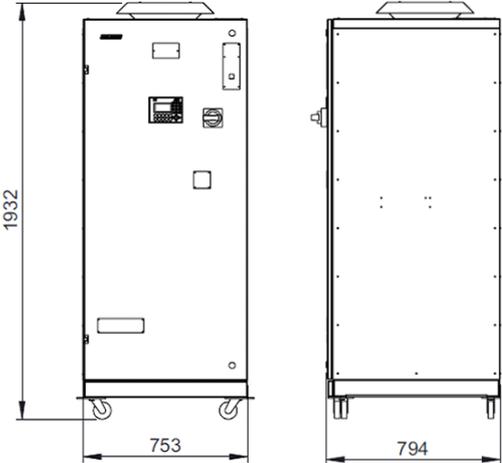
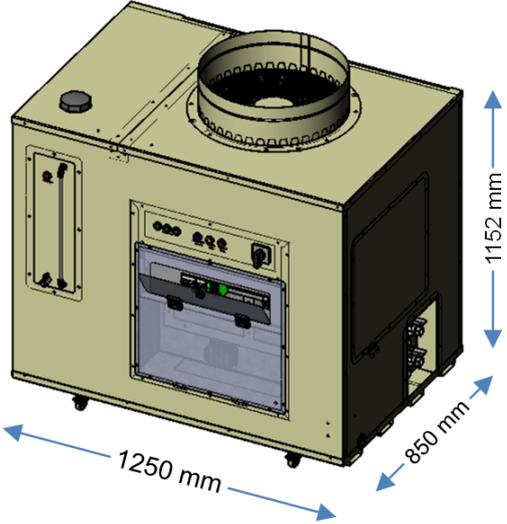
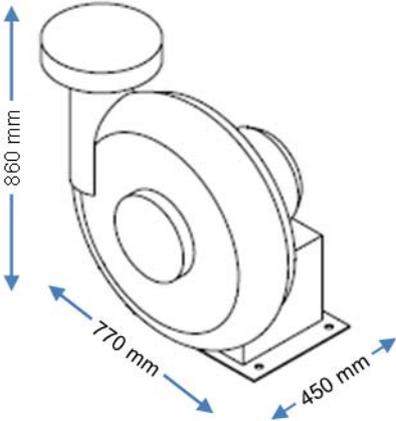
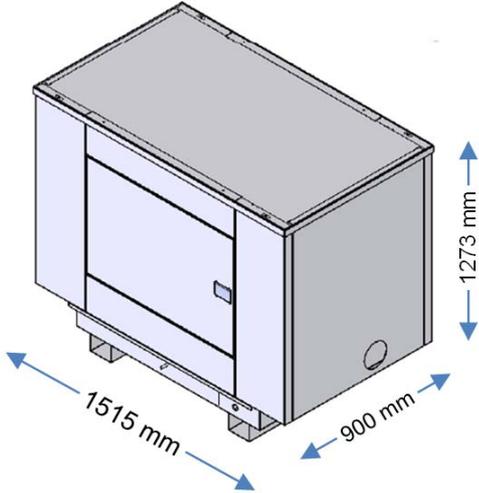
Diagram	Component
	<p>UV Electrical Cabinet</p> <p>The UV electrical cabinet provides electrical power for the UV lamp. A high-voltage power cable connects the UV electrical cabinet to the LEC on the FB10000.</p> <p>Dimensions (LWH): 75 x 79 x 193 cm (2.5 x 2.6 x 6.3 ft.)</p> <p>Weight: 329 kg (725 lbs.)</p>
	<p>Unified Cooler</p> <p>The unified cooler circulates distilled water (50 liters provided by the customer) that is used to cool the UV lamp and to maintain the ink on the printing bridge at the correct operating temperature. Four water hoses are connected between the unified cooler and the FB10000.</p> <p>Dimensions (LWH): 125 x 85 x 115 cm (4.1 x 2.8 x 3.8 ft.)</p> <p>Weight: 180 kg (397 lbs.)</p>

Table 2-2 Dimensions and Weight of HP Scitex FB10000 Industrial Press Components

Diagram	Component
 <p>The diagram shows a 3D perspective view of a circular UV extraction fan. It has a central hub and a curved outer casing. Three dimension lines with arrows indicate the size: a vertical line on the left for height (860 mm), a horizontal line at the bottom for width (770 mm), and a diagonal line at the bottom right for depth (450 mm).</p>	<p>UV Extraction Fan</p> <p>The UV extraction fan removes heat and ozone from the UV lamp housing. The fan is connected to the site's central extraction system or directly to the outside.</p> <p>Note: If the UV extraction fan is connected to the site's central extraction system, the system should operate at all times, otherwise it can affect the performance of the FB10000.</p> <p>Dimensions (LWH): 77 x 45 x 86 cm (2.5 x 1.5 x 2.8 ft.)</p> <p>Weight: 230 kg (507 lbs.)</p>
 <p>The diagram shows a 3D perspective view of a rectangular vacuum pump unit. It has a front panel with a handle and a circular port on the side. Three dimension lines with arrows indicate the size: a horizontal line at the bottom left for width (1515 mm), a diagonal line at the bottom right for depth (900 mm), and a vertical line on the right side for height (1273 mm).</p>	<p>Vacuum Pump</p> <p>The vacuum pump provides vacuum to hold substrates flat against the printing table for accurate printing. A tube is connected from the vacuum pump to the FB10000.</p> <p>Dimensions (LWH): 152 x 90 x 127 cm (5.0 x 3.0 x 4.2 ft.)</p> <p>Weight: 451 kg (994 lbs.)</p>

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General

- The printer is designed and manufactured to ensure maximum safety operation. It should be installed, operated, and maintained by qualified users (authorized by HP Scitex) in strict compliance with the safety precautions, warnings, and operating instructions contained in the [HP Scitex FB10000 Operator Manual](#).
- The HP Scitex FB10000 Industrial Press has been designed to meet the safety requirements applicable to printing equipment. However, anyone attempting to operate the system must be fully aware of potential safety hazards.
- The FB10000 must have a dedicated mains power supply which must not – **under any circumstances** – be used for additional equipment.
- The FB10000 and its peripheral components (UV electrical cabinet, unified cooler, vacuum pump, and UV extraction fan) should be installed **indoors**.

Electrical Shock Hazard

Danger Only a certified electrician is authorized to do any electrical work.



- The customer is responsible for ensuring that all electrical work complies with local electrical codes and the relevant laws and regulations. The customer should provide qualified and registered electricians to perform the operations required by these laws and regulations.
- In general, HP service personnel are authorized to perform maintenance operations on all FB10000 parts and subassemblies, but not on the site electrical infrastructure or the connections from the FB10000 to this infrastructure. Safe isolation of the printer from power prior to service operations shall be done according to local regulations, and is the customer's responsibility.

Danger The mains power supply to the installation site, as well as all electrical power outlets must be checked by a qualified licensed electrician for compliance with national and local authority safety requirements. The qualified licensed electrician must also issue and sign a certificate to this effect.



Fire Hazard

Danger UV inks used with the FB10000 press have flammable and irritant properties. Their combustion products include carbon monoxide and carbon dioxide.



- The flooring under the printer parts and electrical cabinets must prevent the spread of fire. Make the floor of smooth concrete. Please consult your local Fire Department for local fire regulations.
- Store inks and solvents in storage cabinets designed to hold flammable liquids, and label these storage cabinets clearly as required by occupational safety regulations. Verify that the storage cabinets meet the standards set in NFPA 30, sections 4-3.2 to 4-3.2.3 and with OSHA regulations (29 CFR 1910.106(d)), or according to local fire and occupational safety standards.

- Verify that the local fire ordinance regarding the use and storage of flammable materials are strictly observed. Make sure to store inks separately from acids, alkanes, and oxidizing materials.
- Distance spark-producing equipment from the printer and the flammable liquid storage cabinets, according to the distances specified by local fire ordinances based on the Material Safety Data Sheet supplied with the inks used.
- Do not permit smoking or naked flames in the print production or storage areas and ensure the appropriate warning signs are prominently displayed (see [Figure 3-1](#)).



Figure 3-1 Warning Signs

Always keep **two 6 kg (13.2 lbs.) fire extinguishers** near each HP Scitex FB10000 Industrial Press. Never use water for extinguishing fire! In the event of fire, switch the electricity **OFF** before extinguishing the fire.

Use **carbon dioxide** fire extinguishers only.

Danger



To avoid electrical shocks or burns caused by using the wrong type of fire extinguisher, make sure your fire extinguisher has been approved for use on electrical fires.

Caution



Conductive fluids that seep into the active circuit components of the system may cause short circuits that can result in electrical fires. Therefore, do not place any liquid or food on any part of the system.

Explosion Hazard

Danger



UV inks used with the FB10000 press have flammable and irritant properties. Their combustion products include carbon monoxide and carbon dioxide.

Danger



Extreme care must be taken when handling UV inks, to prevent the risk of explosion. Do not operate the system in the presence of explosive liquids, vapors, or gases. Keep all sources of ignition away from the printer and work area.

Waste Disposal

Verify that a covered fireproof container, clearly labeled as hazardous waste, is available for disposal of waste solvent and ink.

This container must be electrically grounded during transfer of liquids into or from the container. If solvent-soaked rags or absorbents are used to clean the area, dispose of them in a closed fireproof container labelled as hazardous waste.

Contact local fire safety, occupational safety and hazardous waste disposal regulatory agencies for information about specific storage and disposal requirements for wastes associated with the printer. Waste containers should not be discharged in sewers and are banned from landfill sites.

Provision for an Eye Wash Station

When installing the HP Scitex FB10000 Industrial Press, it is important to provide an eye wash station and shower. If the system operator accidentally splashes ink or solvent into the eyes, he/she must be able to flush his/her eyes immediately with copious amounts of clean water or sterile eye-wash solution, and maintain flushing for a minimum of 15 consecutive minutes. In case ink or solvent splashes onto the skin, the operator should flush it using a shower. The provision of these facilities may help to reduce the risk of irritation and possible damage to the eyes and/or skin.

Eye wash facilities may be provided by plumbing a system into a specific area (reasonably close to the print production area), or installing a commercially available eye wash station. These facilities should be located at a distance of no more than 15 m (50 ft) from the print production area, and unobstructed access should be maintained at all times.

The services of a plumber will be required for installation of the types of eye wash fountains shown below (see [Figure 3-2](#)). Alternatively, commercially available eye wash products (eye wash bottles containing sterile solution or sealed flushing systems) may be used.



Figure 3-2 Eye Wash Station

Provision for First Aid Treatment

Provision of additional first aid equipment and suitable washing facilities should be in accordance with the local authority regulations and recommendations in the country of installation.

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General

HP representatives supervise the unloading, unpacking, transfer and placement of the printer at its final destination, and the final installation process.

To ensure proper installation, all procedures contained herein, unless otherwise specified, must be performed prior to the arrival of the main shipment at the customer's site.

Do not unload and/or unpack the system without presence of an HP-authorized representative.

Planning the Print Production Area

Table 4-1 describes factors that should be taken into consideration when planning the print production area.

Table 4-1 Print Production Area

Requirement	Value
Doorway dimensions to print production area	Minimum: 2.4 m (8 ft.) wide x 2.5 m (8.2 ft.) high Recommended: 3 m (10 ft.) wide x 2.5 m (8.2 ft.) high
Minimum space surrounding FB10000	1.5 m (4.9 ft.) on all sides
Minimum ceiling height	3.5 m (11.5 ft.)

- Substrates can be extremely heavy and bulky. Therefore, it is important to provide unrestricted access and room for easy maneuverability within the print production area for loading and unloading them.
- Provision of suitable emergency exits, to which unimpaired access may be maintained at all times, is imperative.
- You should consider allocating additional floor space for operators, ink fill area, service area, maintenance area and for handling prints.

For a sample floor plan of the FB10000 press and its external components (the drawings are to scale), see [FB10000 Layout](#) on page 78.

Shipping and Delivery

The customer is responsible for providing professional carriers to assist in unloading the components of the FB10000 printing system and moving them to the site. The carriers should also assist HP Scitex personnel in unpacking the equipment. For details refer to [Chapter 4, Machine Delivery and Rigging](#) on page 59.

Preparing the Site

The customer is responsible for completing any construction work and painting prior to installation. In addition, the site should be properly cleaned prior to installation. The print production area in particular should be free from dirt and dust.

Due to regulations the floor should be concrete. Tiles floors are not recommended. Wood and metal floors are not allowed.

Shipping Crates

Table 4-2 describes the shipping crates for the FB10000 system.

Table 4-2 Dimensions and Weight of HP Scitex FB10000 Industrial Press Shipping Crates

Crate Contents	Dimensions (packed) LWH	Weight of Crate (packed)
Machine	1080 x 231 x 230 cm 425 x 91 x 91 in.	8260 kg 18210 lbs.
Loader, Unloader, Top Bridge Hood, and UV Covers	384 x 131 x 180 cm 151 x 52 x 71 in.	785 kg 1731 lbs.
Bridge Front and Rear Hoods, IDS Cabinet	230 x 181 x 219 cm 91 x 71 x 86 in.	1333 kg 2939 lbs.
Unified Cooler, UV Extraction Fan	216 x 106 x 174 cm 85 x 42 x 69 in.	547 kg 1206 lbs.
UV Electrical Cabinet	103 x 92 x 228 cm 41 x 36 x 90 in.	428 kg 944 lbs.
Vacuum Pump	168 x 114 x 156 cm 66 x 45 x 61 in.	554 kg 1221 lbs.
Media	331 x 176 x 45 cm 130 x 69 x 18 in.	540 kg 1191 lbs.
Loading Table	362 x 144 x 130 cm 143 x 57 x 51 in.	570 kg 1257 lbs.
Unloader Lift	338 x 175 x 66 cm 133 x 69 x 26 in.	1210 kg 2668 lbs.

Unloading Area

A suitable unloading area should be designated that is easily accessible for the delivery trucks. The unloading area should have sufficient space for two large trucks and the heavy-duty crane that are needed to deliver and unload the crates containing the FB10000 press and its components. When planning the unloading area, take into consideration:

- Height and width of the entrance to the unloading area
- Presence of any ramps and slopes. (Suitable dollies are required to transport the FB10000 over inclines that exceed 2°.)
- Height and size of unloading dock (if applicable)

Pathway

An unobstructed pathway (free of stairs, tight turns, other equipment, and so on) is required to move the crated equipment from the unloading area to the installation site. Doorways and corridors must be of sufficient height and width (3 m wide x 2.5 m high [10 ft x 8.2 ft.] recommended) to allow for easy maneuverability.

It is recommended that the shipping crate be unpacked as close as possible to the printer's final destination.

Moving Equipment

The customer is responsible for unloading and moving the HP Scitex FB10000 Industrial Press and all peripheral components, not HP Scitex.

Advanced booking for the services of a specialist-moving contractor will need to be made. It is important to confirm that suitable moving and lifting apparatus will be available on the day required to lift and convey the equipment from the truck to the unpacking area - or alternatively to a predetermined temporary storage area - and thereafter to the installation site.

For details of lifting and conveying equipment requirements, see [Required Tools and Equipment](#) on page 61.

Machine Component Dimensions

The dimensions and weight of unpacked FB10000 components are described in Table 4-3.

Table 4-3 Dimensions and Weight of HP Scitex FB10000 Industrial Press Components

Component	Dimensions (LWH)	Weight
Main frame (including covers and IDS cabinet)	1098 x 216 x 180 cm 36 x 7.1 x 5.9 ft.	8185 kg 18045 lbs.
UV Electrical Cabinet	75 x 79 x 193 cm 2.5 x 2.6 x 6.3 ft.	329 kg 725 lbs.
Unified Cooler	125 x 85 x 115 cm 4.1 x 2.8 x 3.8 ft.	180 kg 397 lbs.
UV Extraction Fan	77 x 45 x 86 cm 2.5 x 1.5 x 2.8 ft.	230 kg 507 lbs.
Vacuum Pump	152 x 90 x 127 cm 5.0 x 3.0 x 4.2 ft.	451 kg 994 lbs.
Unloader Lift (see note)	320 x 160 x 30 cm 10.5 x 5.3 x 1 ft.	988 kg 2178 lbs.

Note The unloader lift has a maximum load capacity of 1500 kg (3307 lbs.).



Floor Surface and Strength

Note The customer is strictly responsible for surface and load-bearing compliance.



The following information is provided to assist the engineer:

- The floor must be strong enough to support the machine while standing on its 6 supporting pads (see [Figure 4-1](#)) and 20 legs.
- The machine weight is approximately **8200 kg** (18077 lbs.).
- A single supporting pad foot print is **111 x 111 mm** (4.4 x 4.4 in.)
- The floor must be leveled with a maximum incline of **0.2%**.

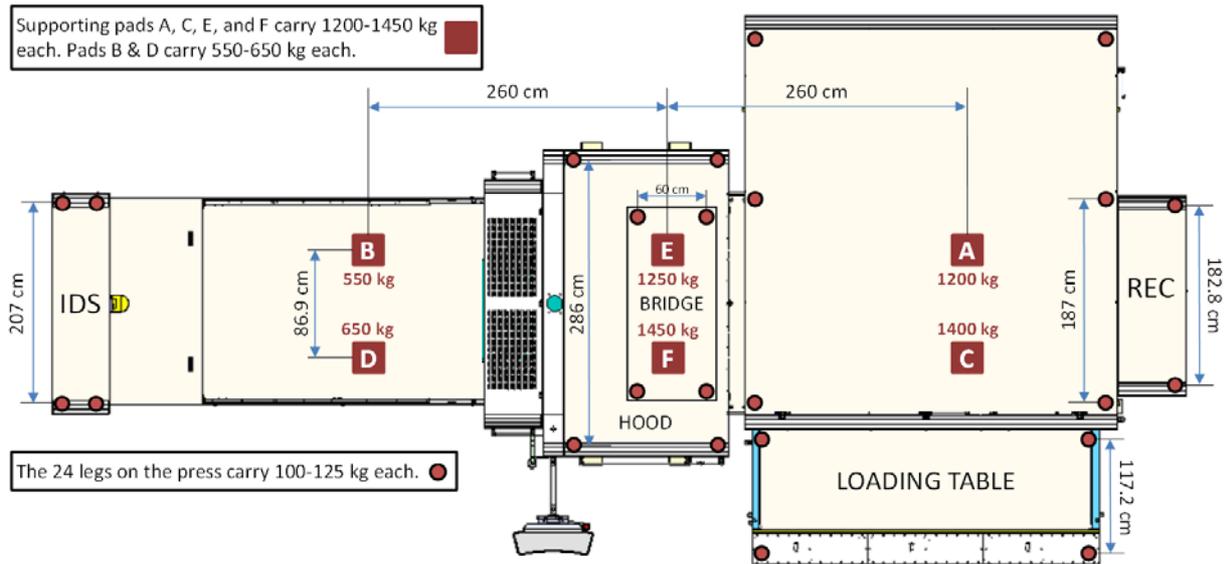


Figure 4-1 Leveling and Supporting Pads — Specifications

Additional Floor Surface Information

When planning the print production area, it is important to ensure that the floor surface is solid, smooth, level, and free from any holes or indentations. The floor should be constructed of smooth concrete.

The floor of the print production area, as well as that on machine's way from the unpacking area, must be strong enough to support the entire weight of the printer, including all accompanying equipment (see [Figure 4-1](#)).

A construction engineer should be consulted regarding the load-bearing capabilities of the floor of the building where the FB10000 press is to be installed.

Note Installation of the machine loader requires drilling ten (10) holes into the floor.



Positioning Peripheral Components

The FB10000 press and its various peripheral components should be positioned in such a way that the connections (cables and pipes) between the components do not exceed the lengths specified in [Table 4-4](#) and [Table 4-5](#).

Table 4-4 Maximum Recommended Length — Electrical Cables

Connection	Maximum Length
Unified cooler to machine inlet	10 m (32.8 ft.)
Vacuum pump to machine	15 m (49.2 ft.)
UV cabinet to machine inlet	16 m (52.5 ft.)
UV extraction fan (blower) to UV cabinet	24 m (77 ft.)

Table 4-5 Maximum Recommended Length — Pipes & Hoses

Connection	Maximum Length	Details
Unified cooler to machine inlet	10 m (32.8 ft.)	Four water hoses from the cooler to the connection point at the rear left side of the machine.
Vacuum pump to machine	15 m (49.2 ft.)	<p>Pipe should have as few elbows as possible. The pipe must be able to withstand negative pressure of -0.24 bar.</p> <p>Details: PVC pipe, 4" nominal size, 114.3 mm (4.5") avg. outside diameter, 104.6 mm (4.1") avg. bore inside diameter, 4.9 mm (0.2") avg. wall thickness, class C 9 bar. 45° elbows.</p> <p>Note: The customer is responsible for connecting the tubes and hoses between the vacuum pump and the machine, but not the electrical cable.</p>
Bridge extraction outlet to UV extraction fan inlet	<p>Rigid: 10 m (33 ft.)</p> <p>Flexible: 10 m (33 ft.)</p>	<p>Rigid: 200 mm (8") diameter, galvanized steel, up to three 90° bends.</p> <p>Flexible: 200 mm (8") diameter, smooth bore, up to two 90° bends, capable of withstanding up to 120° C (248° F). The pressure drop should be less than 2.5 mBar (0.036 psi) with a flow rate of 1500 m³/hr. (883 CFM).</p> <p>Note: HP provides a flexible hose for this connection, but the customer is responsible for making the connection.</p>

Table 4-5 Maximum Recommended Length — Pipes & Hoses

Connection	Maximum Length	Details
UV extraction fan outlet to customer site extraction system	15 m (49 ft.)	<p>250 mm (10") diameter, galvanized steel, terminated at least 5 m (16.4 ft.) above head height, up to three 90° bends.</p> <p>The pressure drop should be less than 1.5 mBar (0.02 psi) with a flow rate of 1500 m³/hr. (883 CFM).</p> <p>Note: The customer is responsible for completing this connection.</p>

- A suggested floor plan for operation and service access around the HP Scitex FB10000 Industrial Press system is shown in [FB10000 Layout](#) on page 78. It is essential to check that your intended location is suitable for this floor plan. If you have any doubts, consult your local Installation Manager.
- In addition to the print production area, extra space will be required in a separate area for the storage of inks and substrates, as described in [Storage Area for Consumables and Substrates](#) on page 41.

Protecting Pipes and Cables

It is the customer's responsibility to protect the pipes and cables that connect the external components to the HP Scitex FB10000 Industrial Press with a secure, metal cover (height: 170 mm/6.7 in.).

Alternatively, the customer may place the cables in a channel dug into the floor of the site. The channel must be covered properly to prevent a safety hazard.



Figure 4-2 Covering the Inlet Pipes and Cables

Danger Zone and Warning Labels

The customer is responsible for marking the boundaries of the Danger Zone in the area where the FB10000 press will be installed, as shown in Figure 4-3.

Caution



It is also recommended to install "Do Not Enter!" warning labels to help ensure that no one enters the Danger Zone when operating the FB10000.

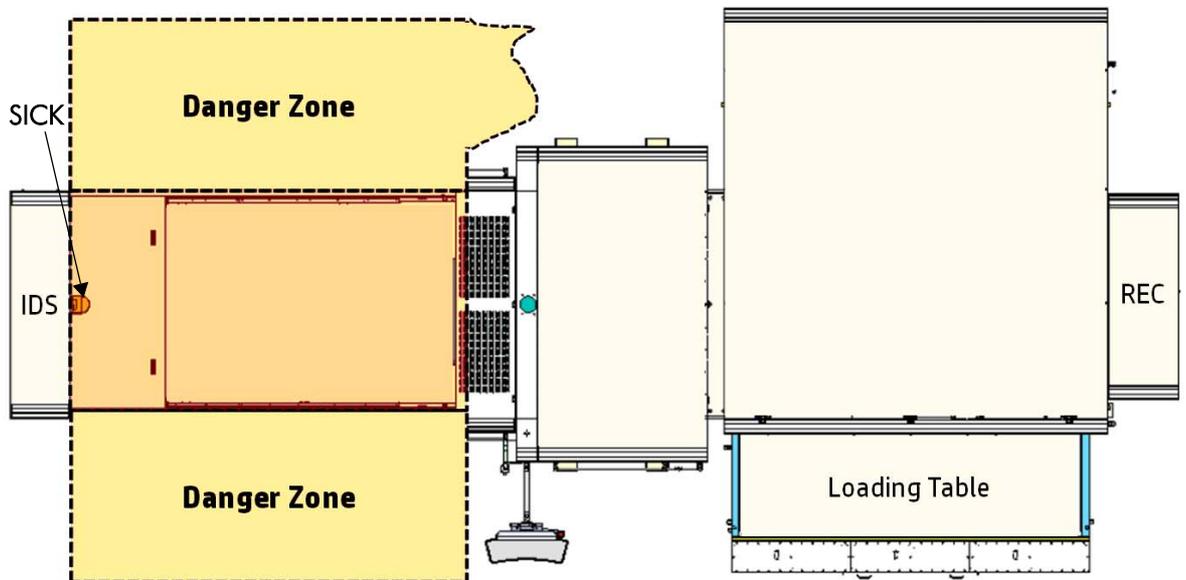


Figure 4-3 FB10000 Printer Danger Zone

The Danger Zone is extremely hazardous when the FB10000 is in operation and proper safety guidelines must be followed to ensure a safe work environment.

To prevent possible injury, the SICK safety scanner is mounted on the far left side of the machine chassis, in back of the IDS cabinet. The safety scanner scans the Danger Zone and stops the print run and movement of all machine components when someone enters the Danger Zone when operating the FB10000.

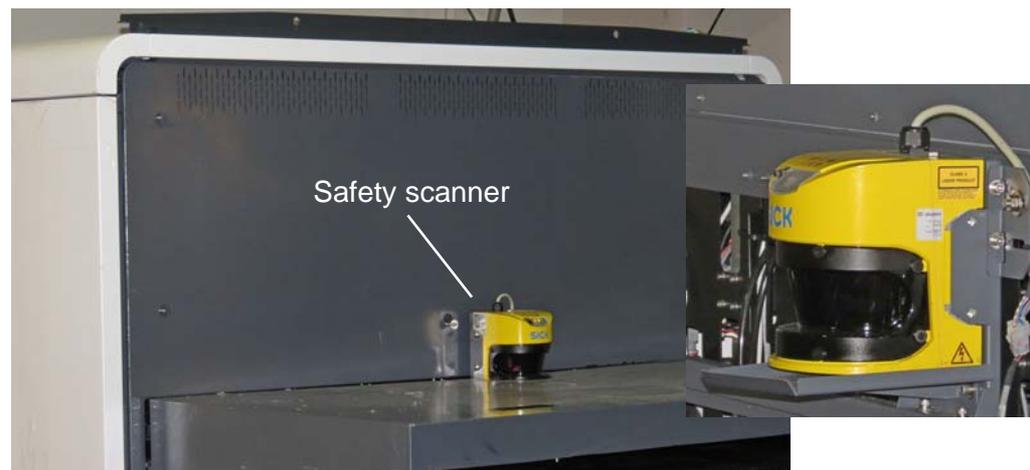


Figure 4-4 SICK Safety Scanner

Electrical Requirements

This section provides the electrical specifications of the HP Scitex FB10000 Industrial Press. Every system may be adapted to the mains power voltage of the country of installation.

It is the responsibility of the customer to contact a local, authorized electrician to prepare the site with the proper wiring, circuit breakers, fuses (and power transformer, if necessary), and then connect the HP Scitex FB10000 Industrial Press system to the mains power outlet. **The electrician should be available in time for the 2nd day of installation.**

Electrical Requirements — 50 Hz

Table 4-6 shows the electrical requirements of the FB10000 system when using two power inlets, one for the FB10000 itself and one for the UV system.

Table 4-6 Electrical Requirements — 50 Hz

Unit	Phases	Connection Type	Voltage Input	Site Protection
Printing unit	3+N+G	5-wire connection 3+N+G	400V between phases (-5% / +10%) 230V between phase & neutral, 50 Hz (-5% / +10%)	75A
UV system	3+G	4-wire connection 3 phases + G	400V between phases, 50 Hz (-5% / +10%)	90A

 **Note** If the system is powered by a generator, the electrical requirements are the same as for the mains.

Figure 4-5 shows the recommended power connection of the FB10000 system for 50 Hz/400V.

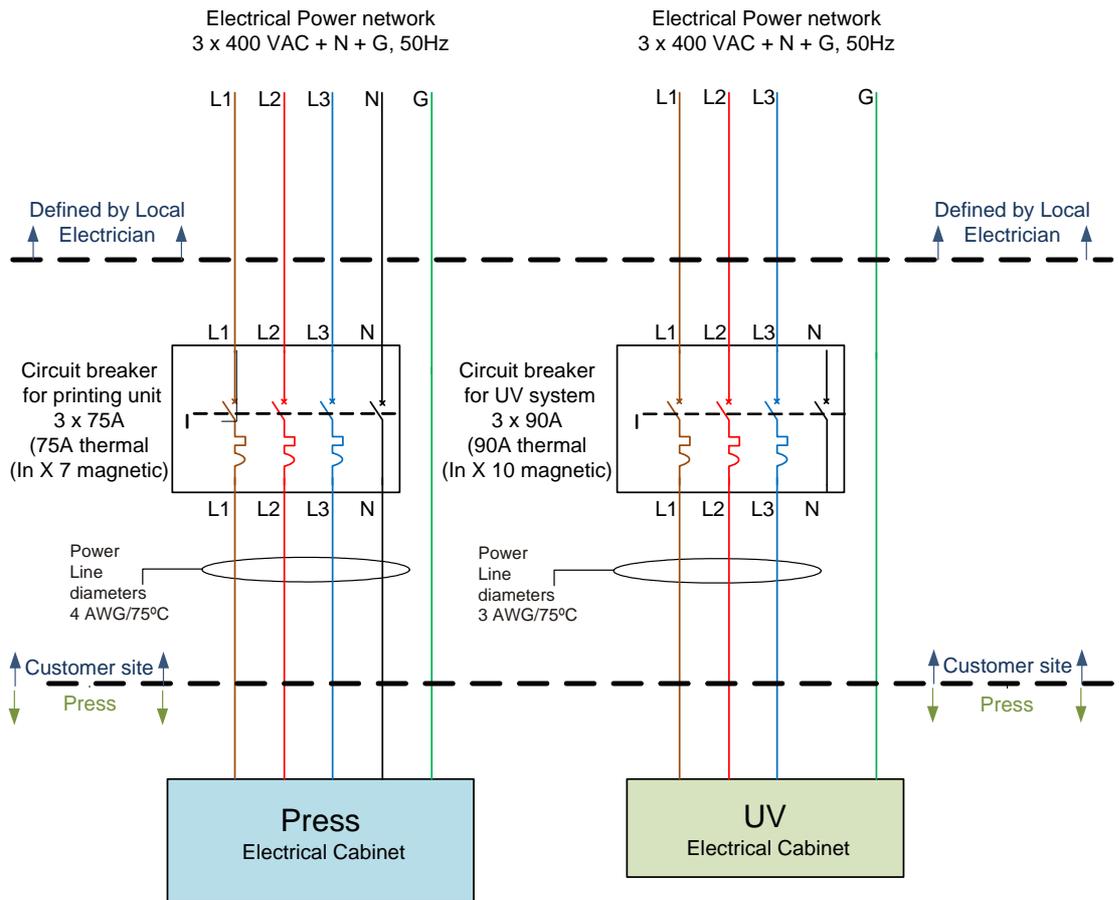


Figure 4-5 FB10000 Recommended Power Connections — 50 Hz/400 V

Note The indicated currents in Figure 4-5 refer to HP-recommended ratings for circuit breakers. For actual power usage values, refer to the power consumption figures in Table 4-7.



Note It is the customer's responsibility to supply the main inlet cable and the inlet cables for the machine and UV system. The length, diameters, and cross section of the power line should be calculated according to the final position of the press to the electrical supply line.



Danger The mains power supply to the installation site, all electrical power outlets, and the power line to the machine and UV system must be checked by a qualified licensed electrician for compliance with national and local authority safety requirements. The qualified licensed electrician must also issue and sign a certificate to this effect.



Power Consumption (50 Hz)

Table 4-7 shows the estimated power consumption of the FB10000 when operated at full power.

Table 4-7 FB10000 Power Consumption (50 Hz)

Unit	Power Consumption	Total Power Consumption
Printing unit	58A 40.5 kVA	128A 89.5 kVA
UV system	70A 49 kVA	

Electrical Requirements — 60 Hz

Table 4-6 shows the electrical requirements of the FB10000 system when using two power inlets, one for the FB10000 itself and one for the UV system.

Table 4-8 Electrical Requirements — 60 Hz

Unit	Phases	Connection Type	Voltage Input	Site Protection
Printing unit	3+N+G	5-wire connection 3+N+G	400V between phases (-5% / +10%) 230V between phase & neutral, 60 Hz (-5% / +10%)	75A
UV system	3+G	4-wire connection 3 phases + G	480V between phases, 60 Hz	80A

Notes



- If the system is powered by a generator, the electrical requirements are the same as for the mains.
- The UV system is approved by TUV for 400V and 480V only. In Australia, no transformer is needed if the voltage is a constant 430V.
- At 60 Hz sites, make sure to use the correct settings for the UV system and the press, as defined in the [FB10000 Installation Guide](#).

Electrical Diagram — 60 Hz/480V

Figure 4-6 shows the recommended power connection of the FB10000 system for 60 Hz/480V.

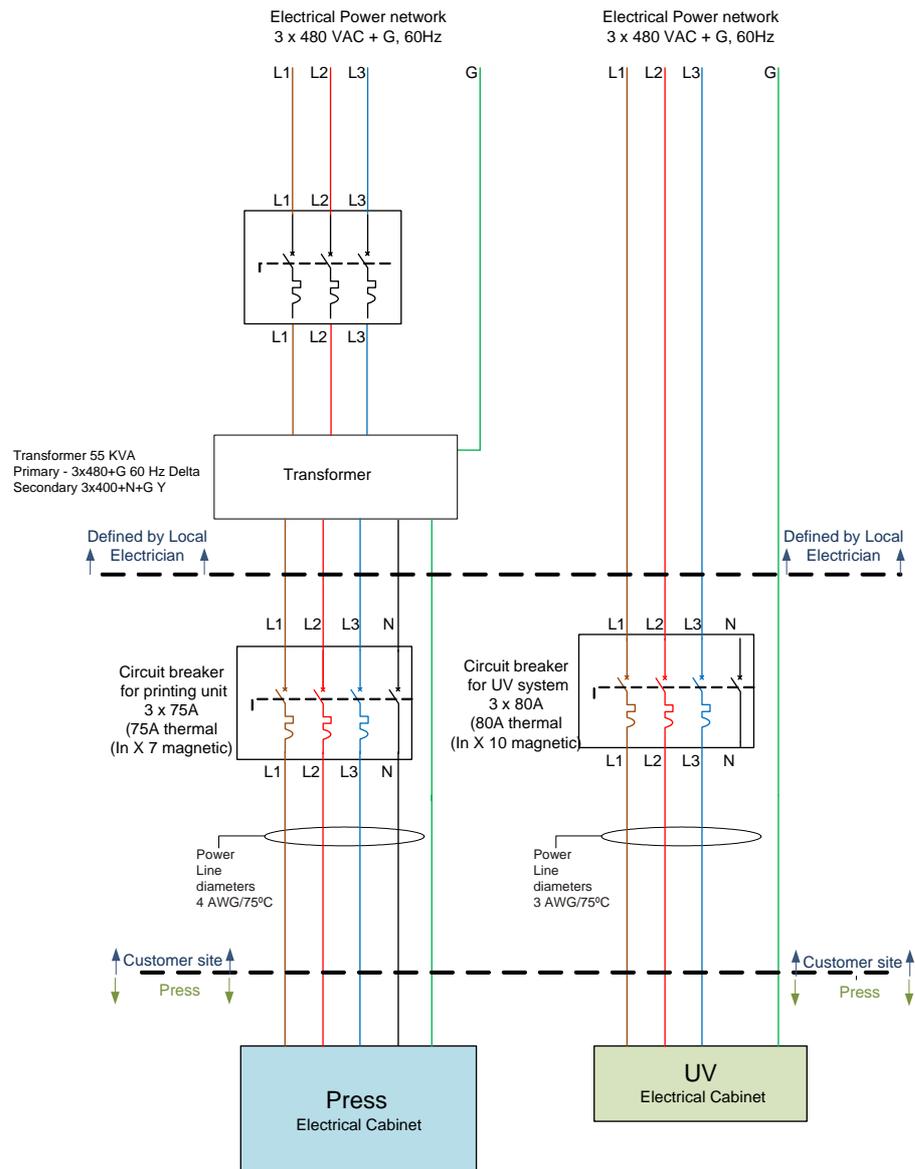


Figure 4-6 FB10000 Recommended Power Connections — 60 Hz/480 V

Note The indicated currents in [Figure 4-8](#) refer to HP-recommended ratings for circuit breakers. For actual power usage values, refer to the power consumption figures in [Table 4-7](#).



Note It is the customer's responsibility to supply the main inlet cable and the inlet cables for the machine and UV system. The length, diameters, and cross section of the power line should be calculated according to the final position of the press to the electrical supply line.



Danger The mains power supply to the installation site, all electrical power outlets, and the power line to the machine and UV system must be checked by a qualified licensed electrician for compliance with national and local authority safety requirements. The qualified licensed electrician must also issue and sign a certificate to this effect.



Electrical Diagram — 60 Hz/400V

Figure 4-7 shows the recommended power connection of the FB10000 system for 60 Hz/400V.

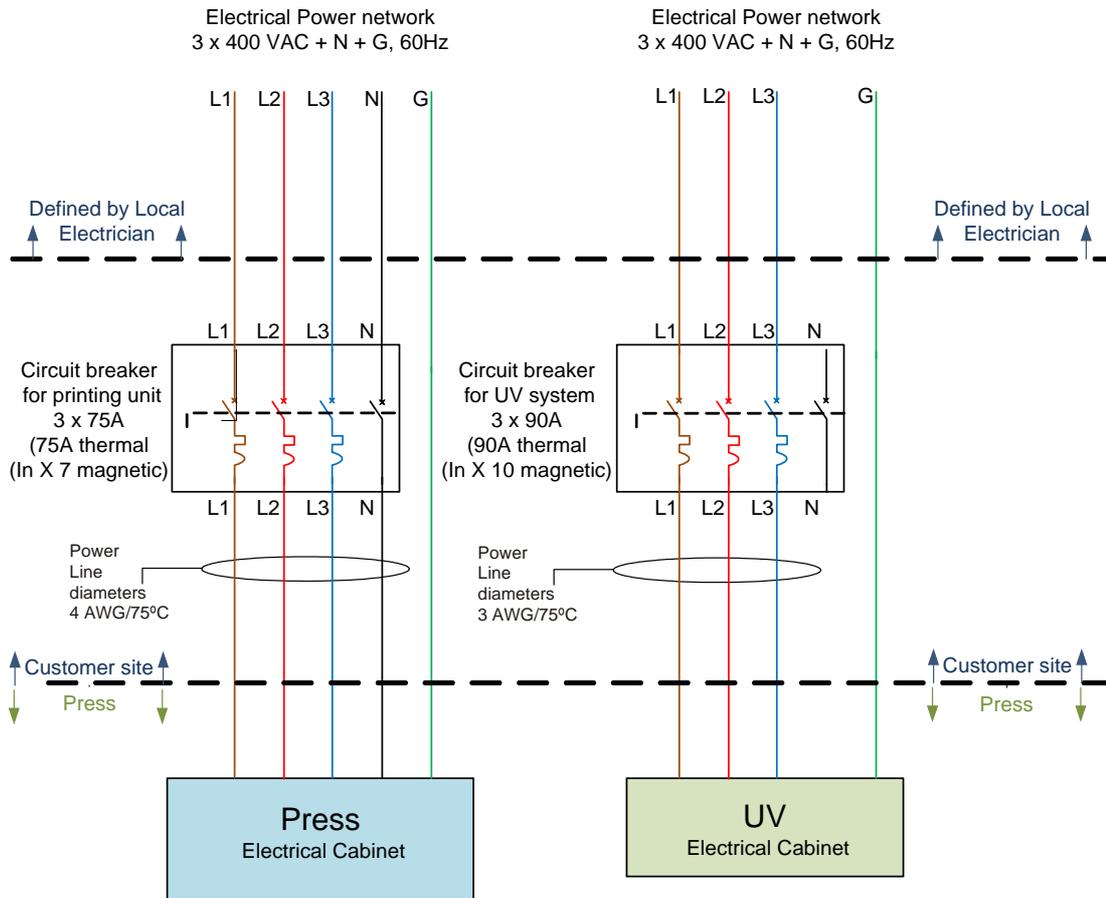


Figure 4-7 FB10000 Recommended Power Connections — 60 Hz/400 V)

Notes



The indicated currents in Figure 4-7 refer to HP-recommended ratings for circuit breakers. For actual power usage values, refer to the power consumption figures in Table 4-7.

Use the same type of transformer for the press and the UV system.

It is the customer's responsibility to supply the main inlet cable and the inlet cables for the machine and UV system. The length, diameters, and cross section of the power line should be calculated according to the final position of the press to the electrical supply line.

Danger



The mains power supply to the installation site, all electrical power outlets, and the power line to the machine and UV system must be checked by a qualified licensed electrician for compliance with national and local authority safety requirements. The qualified licensed electrician must also issue and sign a certificate to this effect.

Electrical Diagram — 60 Hz/208V

Figure 4-8 shows the recommended power connection of the FB10000 system for 60 Hz/208V.

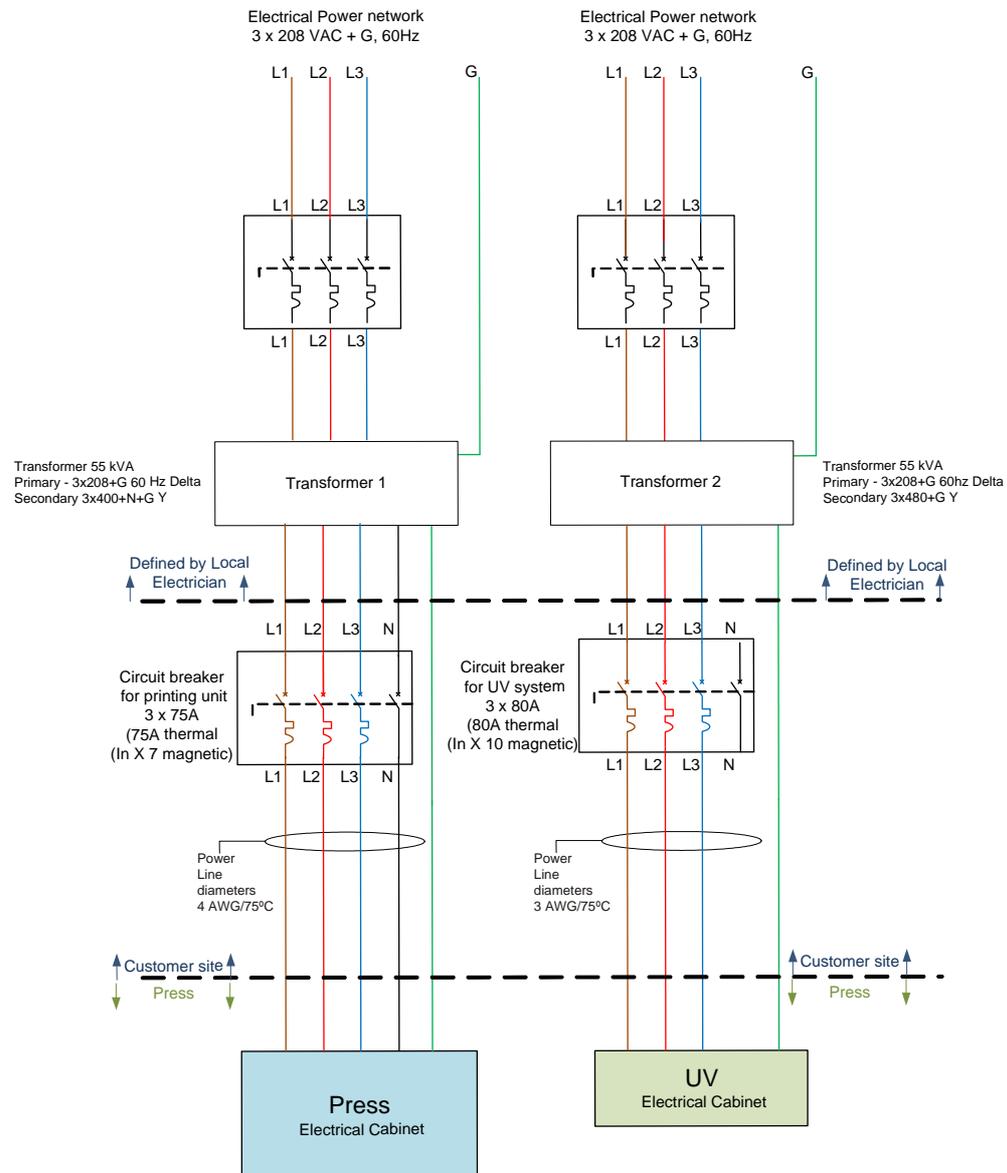


Figure 4-8 FB10000 Recommended Power Connections — 60 Hz/208 V)

Notes



The indicated currents in [Figure 4-8](#) refer to HP-recommended ratings for circuit breakers. For actual power usage values, refer to the power consumption figures in [Table 4-7](#).

Use the same type of transformer for the press and the UV system.

It is the customer's responsibility to supply the main inlet cable and the inlet cables for the machine and UV system. The length, diameters, and cross section of the power line should be calculated according to the final position of the press to the electrical supply line.

Danger



The mains power supply to the installation site, all electrical power outlets, and the power line to the machine and UV system must be checked by a qualified licensed electrician for compliance with national and local authority safety requirements. The qualified licensed electrician must also issue and sign a certificate to this effect.

Power Consumption (60 Hz)

Table 4-7 shows the estimated power consumption of the FB10000 when operated at full power.

Table 4-9 FB10000 Power Consumption (60 Hz)

Unit	Power Consumption	Total Power Consumption
Printing unit	58A 40.5 kVA	120A 83.5 KVA
UV system	62A 43 kVA	

Table 4-10 Transformer Requirements

Main (phase to phase)	Frequency	Transformer required for press?	Transformer required for UV system?
208V	50 Hz/60 Hz	Yes (step up)	Yes (step up)
400V	50 Hz/60 Hz	No	No
480V	50 Hz/60 Hz	Yes (step down)	No
600V	50 Hz/60 Hz	Yes (step down)	Yes (step down)

Connecting the Mains

There are two options for connecting the mains power cable to the LEC (Left Electrical Cabinet):

- **Option 1** – The cable is routed under the machine frame, up through the left side of the IDS cabinet, and into the LEC via the side inlet. Approximately 2 m (6.6 ft.) of cable is required to route the cable inside the IDS cabinet.
- **Option 2** – The cable is routed to the LEC through an inlet at the top of the IDS cabinet. Approximately 1 m (3.3 ft.) of cable is required to route the cable through the top of the IDS cabinet.

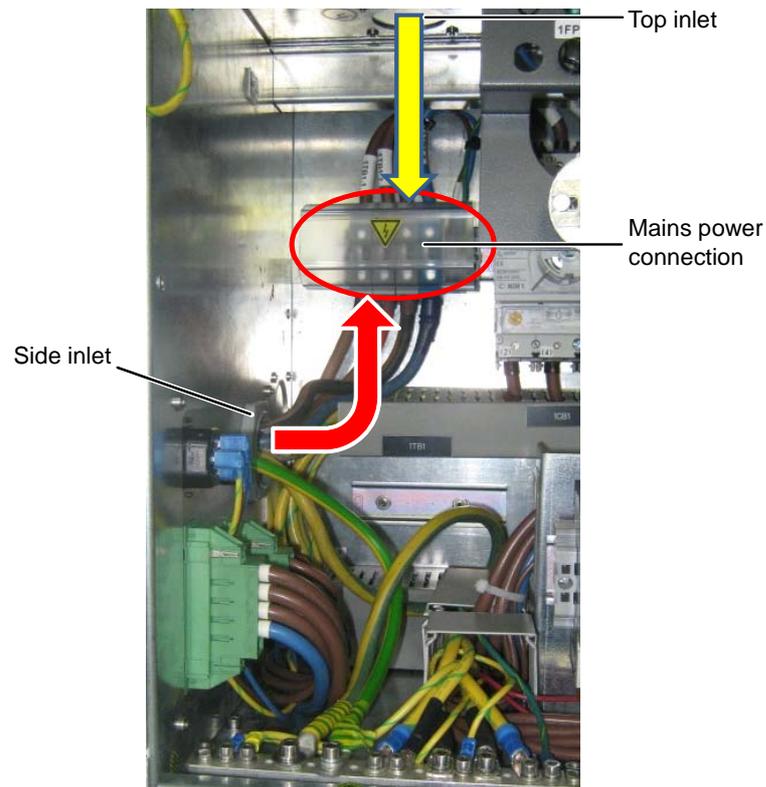


Figure 4-9 Mains Power Connection Options

Power Supply Transformer Requirements

Sites in the United States of America, Canada, Japan, and other countries that require the use of a transformer (step-up or step-down), must ensure that the transformer meets local and national authority electrical regulations. For example, in North America the transformer must be of the Listed Type.

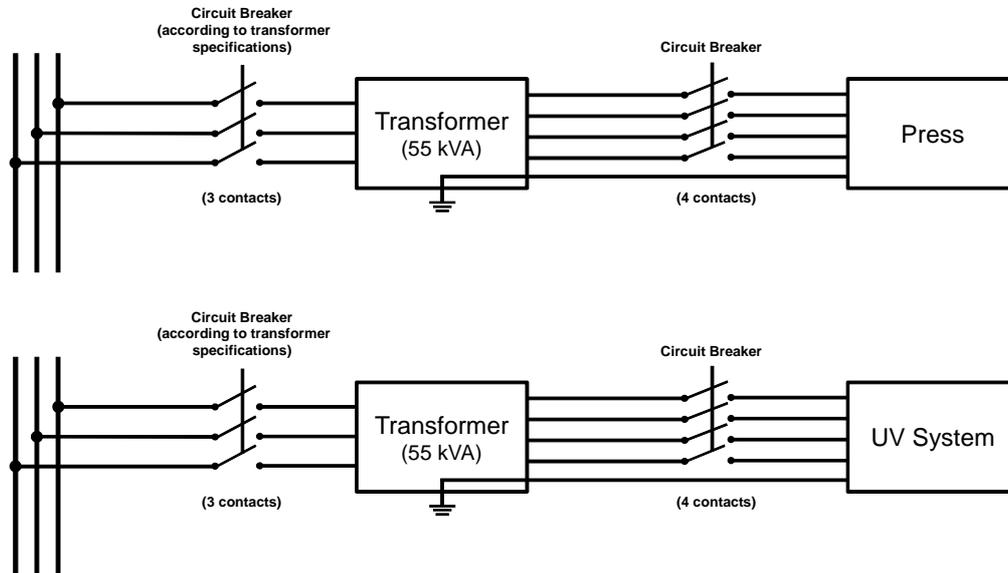


Figure 4-10 Electrical Layouts with Transformers

Power Line Disturbances

- Reliable operation of the FB10000 computer system depends on the availability of relatively noise-free AC power.
- Lighting, line faults, or the power switching commonly found in machinery in factory environments can generate line transients that far exceed the peak value of the applied voltage. If not reduced, these microsecond pulses can disrupt system operation.
- Voltage transients must be tested when all machinery and air-conditioning equipment are operating normally and the FB10000 system is turned on. Voltage spikes should not exceed **+5 or -10%**.
- All potential noise-generating equipment (e.g. fans, fluorescent lighting and air-conditioning systems) must be kept separate from the power source used for the FB10000 press.

Surge Protection

- The end-user facility should provide the proper surge protection, which will be suitable for their specific installation.
- In order to ensure optimum performance and reliability, the FB10000 should be protected from variations in line voltage, which are common to production printing environments. Power lines should be regulated accordingly, using a dedicated power conditioning unit, unless the lines are centrally regulated. The air-conditioning unit should include a surge protector in order to avoid lightning damages.

Grounding

The FB10000 press must be connected to a special ground line in order to protect the operator and the printer and minimize electrostatic affects.

Grounding equipment for the FB10000 press and all connecting equipment must be installed to ensure smooth and trouble-free operation.

The following grounding requirements must be fulfilled:

- Grounding wires should be insulated and at least equal in size to the phase conductors.
- Ground impedance must be less than **0.1 ohms**.
- The installation of a single point and dedicated ground.
- Power stabilizer equipment that is supplied by three uninterrupted phase wires and one uninterrupted copper ground wire from the main building service panel. These should run in the same conduit and should be at least equal in size to the phase wires.

Additional Information

- As a safety precaution, the FB10000 should be hardwired to a wall-mounted circuit breaker. This outlet should be suitably rated to meet the power requirements of the FB10000, and should be in accordance with the wiring standards of the country of installation.
- All electrical cables that are stretched between the FB10000 and the machine components should be protected against mechanical hazard using suitable protection (see [Figure 4-2](#) on page 26).

Pneumatic Requirements

It is the customer's responsibility to provide a supply of compressed air to the HP Scitex FB10000 Industrial Press. Compressed air may be supplied by a central air supply system, or through the use of a dedicated air compressor. In either situation, a wall-mounted air outlet is required. The outlet should have a quick-coupler fitting and be located near the FB10000 press.

An air dryer is required to ensure that the air supplied to the system is moisture free.

Note



The customer should ensure that the personnel required for the compressed air connection are available in time for the 2nd day of installation.



Figure 4-11 Compressed Air Connection to FB10000



Figure 4-12 shows the type of quick connector that is required for the 10 mm compressed air line.

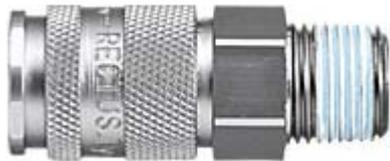


Figure 4-12 Quick Connector for Compressed Air Line (1/2")

Air Compressor Requirements

Table 4-11 Air Compressor Requirements

Requirement	Value
Operating pressure	7-8 bar (101.5-117.6 psi)
Flow rate	Minimum of 1200 liters/min. (43 CFM)
Air cleanliness	The air should be filtered to 5 microns before reaching the FB10000 press.
Reservoir size	400 liters (106 gal.)

Air Dryer Requirements

Table 4-12 Air Dryer Requirements

Requirement	Value
Operating pressure	7-8 bar (101.5-117.6 psi)
Flow rate	Minimum of 1200 liters/min. (43 CFM)
Dew point	2°C (35.6°F)

Environmental Requirements

Lighting

Whenever the FB10000 press is in operation, the print production area should be well illuminated to provide the operator with optimal conditions for checking print production (color, alignment, etc.).

Follow the guidelines described below to avoid ink curing when the printing bridge is raised to its vertical position:

- Customer sites that are illuminated with bulbs containing mercury (for example, fluorescent and metal halide bulbs; fluorescent is recommended) should use appropriate filtering to prevent radiation peaks below 400 nm. Filtering typically consists of plastic covers over the lamp housing.
- Avoid exposing the printing bridge to direct sunlight. Any windows in the vicinity of the FB10000 press should be filtered sufficiently to block 99.97% of the UV light that passes through them.



Note If alterations need to be made to the customer site to conform with these guidelines, the customer in the meantime must wipe the print heads and perform light maintenance each hour while the bridge is raised.

Temperature and Humidity

Temperature and humidity, both in the print production and in the storage areas can affect the print output results. If not maintained within the recommended values, as shown below, they may have an adverse effect on the print quality and/or damage sensitive electronic devices in the system.

Table 4-13 Temperature and Humidity Requirements

	Room Temperature	Relative Humidity
Print production area	17-30°C (63-86°F)	50-60% Rh
Peripheral components area [see note]	17-30°C (63-86°F)	50-60% Rh
Media storage area [see note]	10-40°C (50-104°F)	50-60% Rh
Ink storage area	5-35°C (41-95°F) Exposure to temperatures above 50°C (122°F) should be avoided.	-----

Notes



Machine peripheral components (such as the UV cabinet, the unified cooler, and the vacuum pump) may be located in a room outside of the print production area, subject to the distance restrictions defined in [Positioning Peripheral Components](#) on page 25. The temperature and humidity requirements in this room are identical to those in the print production area.

It is recommended that substrates remain in their sealed wrapping material when placed in storage. See [Handling Substrates](#) on page 41.

The following factors should be considered and submitted to the air-conditioning engineer to assist in designing the climate control unit:

- Room construction and layout
- Heat dissipation produced by the heat emitting elements in the production room (see [Heat Dissipation](#) on page 42)
- Number of people in the print production area
- Air extraction from the production room by the ventilation and fume extraction hood (see [Ventilation and Fume Extraction](#) on page 45)

Note



In order not to interfere with the SICK safety device operation, the humidifiers in the production area should be positioned at least 10 m away from the Danger Zone (see [Figure 4-3](#) on page 27).

Caution



Very low relative humidity increases the risk of damage to sensitive electronic devices caused by Electrostatic Discharges (ESD). Excessive humidity may also cause corrosion problems and moisture contamination within the equipment.

Storage Area for Consumables and Substrates

When planning the storage area for materials used with the HP Scitex FB10000 Industrial Press, in addition to safety and convenience considerations, you should take into account that if inks and substrates are not stored in the appropriate temperature and humidity conditions, print output results and machine reliability may be adversely affected.

The storage area should be of sufficient size to accommodate adequate stocks of substrates and inks.

Ideally, the storage area should be located reasonably close to the print production area, to avoid any unnecessary lifting and maneuvering of heavy materials.

In addition to size and location, further considerations for the material storage area are that it should have a covered roof, be dry, well ventilated and able to provide protection from ultraviolet rays (a dark room is recommended). It is important that the temperature and humidity be maintained within the recommended values shown in [Temperature and Humidity](#) on page 40.

One of the most important aspects of material storage is the potential fire hazard (see [Fire Hazard](#) on page 16 and [Explosion Hazard](#) on page 17) particularly with regard to inks and solvents. Containers must be properly sealed and stored in the upright position. It is strongly recommended that they be placed in a flameproof storage cabinet, fitted with a heat activated extinguishing device.

Handling Substrates

It is recommended that substrates remain in their sealed wrapping material when placed in storage.



Figure 4-13 Substrates Wrapped in Sealing Material

It is advisable to move them from the storage area to the print production area at least 24 hours before use, so that they can reach the required operating temperature. The general rule is 24 hours for every 10°C of difference in temperature.

For example, if the substrates were shipped in 5°C conditions and the site is 25°C, allow 48 hours for the substrates to acclimatize to the site. The pallet should be unwrapped for printing only after the substrates have acclimatized.

Substrates on the pallet that are not used for printing should be rewrapped immediately after the job is completed. Rewrapping the substrates helps preserve them in good condition for future jobs.

Printed substrates should be kept under the same conditions defined for the print production area (see [Temperature and Humidity](#) on page 40) until the substrates are packaged for shipping.

Caution Exposure to extreme heat or strong sunlight may result in permanent media damage.



Heat Dissipation

Sufficient air-conditioning is required to provide heat dissipation for the FB10000 system. [Table 4-14](#) lists the sources of heat that should be considered when planning the climate control system.

Table 4-14 Heat Dissipation of Various Components

Component	BTUs
FB10000 press (including LEC, REC, BSU, and bridge)	10,000 BTUs
UV cabinet	6,800 BTUs
Unified cooler	87,350 BTUs
Vacuum unit	20,000 BTUs
UV extraction fan	40,000 BTUs

The heat dissipation totals can be reduced, as follows:

- The vacuum unit may be located outside the print production area, which reduces the overall heat dissipation accordingly.
- Make sure to keep the temperature in the vicinity of the unified cooler under 30°C (86°F). This may require moving the cooler away from other heat-emitting components, such as the UV extraction fan. In addition, the area on top of the cooler should be kept clear to enable proper heat dissipation. Temperatures above 30°C (86°F) around the cooler will prevent the cooling system from functioning properly.
- The heat produced by the UV extraction fan is typically removed from the production area via the ventilation system connected to the fan.

Unified Cooler Air Flow

The unified cooler has a fan mounted on top to circulate air through the cooler and regulate the temperature of the water circulating through it. Table 4-15 describes the air flow of the unified cooler at different power levels.

Table 4-15 Unified Cooler Air Flow Rates

State	Power Level	kW	m ³ /h	CFM
Idle	10%	3 kW	460 m ³ /h	271 CFM
Printing (average)	50%	15 kW	2750 m ³ /h	1619 CFM
Cool down (for up to 2 min. before performing bridge tilt)	100%	30 kW	8100 m ³ /h	4768 CFM

Noise Levels

Table 4-16 provides the measured noise levels of the HP Scitex FB10000 Industrial Press.

Table 4-16 FB10000 Noise Levels (dBA)

Point of Measurement	Ambient	Startup (2 min.)	Standby	Printing
1. Operator console	47.5	75.6	68.9	75.2
2. Loading area	47.3	73	66.8	73.3
3. Unloading area	47.1	75.1	65.5	76.5
4. IDS cabinet / LEC	46.6	75.6	68.5	72.2
5. REC	44.5	72.5	65.3	71.6
6. Bridge (rear of machine)	46.1	83.2	66.1	77

Note The noise level drops after startup is complete (approximately 2 minutes).



Tip



Installing the vacuum pump and UV extractor fan in a different room from the FB10000 can lower the noise levels in the production area significantly.

Figure 4-14 shows the layout that was used to perform the measurements provided in Table 4-16. The noise levels at a particular site are dependent on site conditions and the precise layout of FB10000 components at the site.

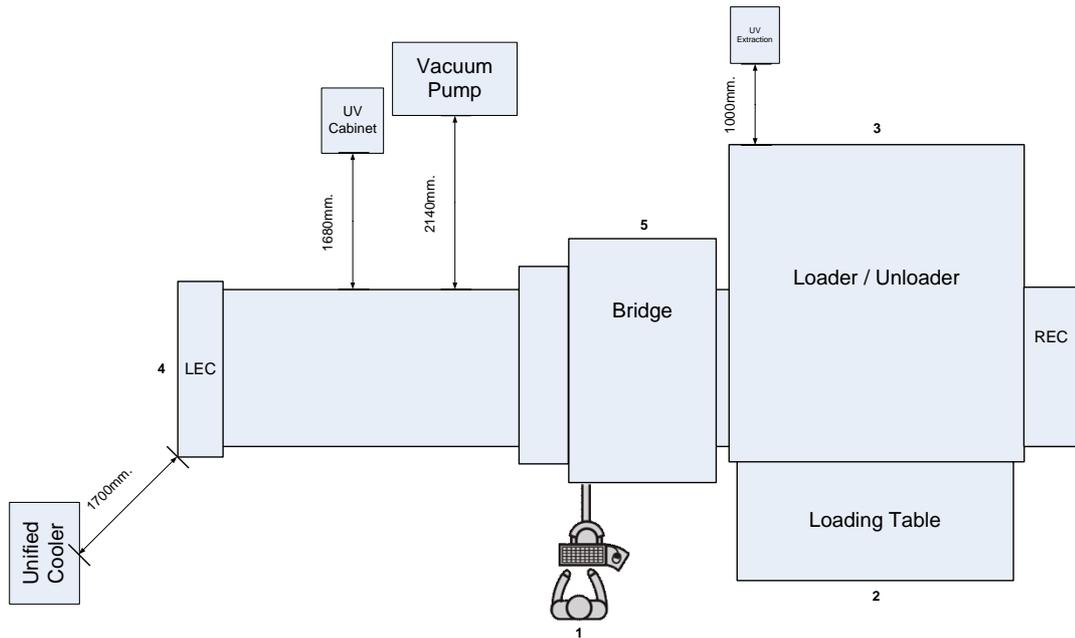


Figure 4-14 Layout Used for Measured Noise Levels

Ventilation and Fume Extraction

Exhaust Fan

To prevent the accumulation of hazardous vapors, the customer is responsible for providing and installing a suitable ventilation/fume extraction system for the FB10000 press and its surrounding area.

The basic ventilation requirements for the FB10000 are shown in Figure 4-15.

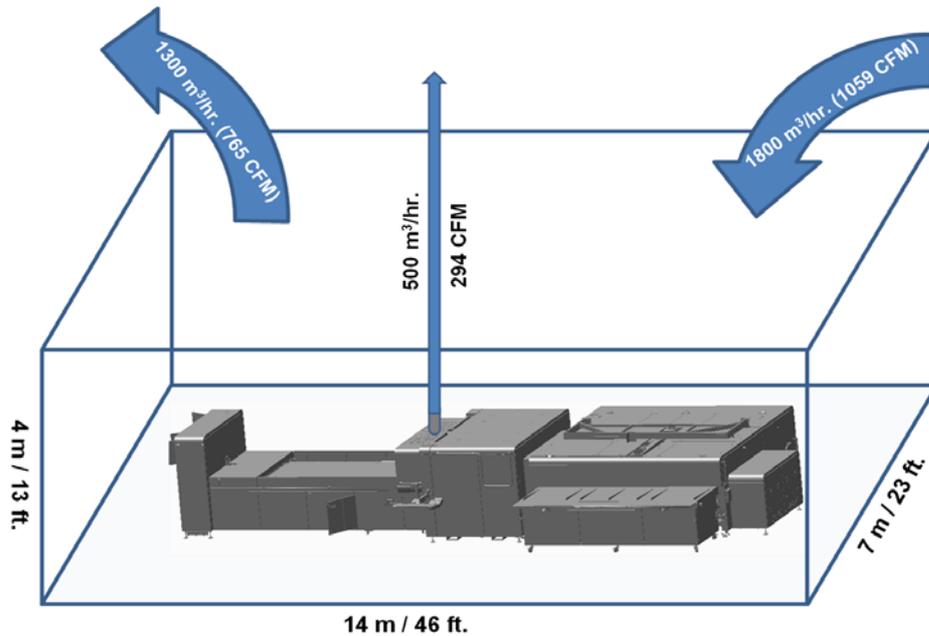


Figure 4-15 FB10000 Ventilation and Fume Extraction Requirements

The requirements shown in Figure 4-15 are based on an area of 14 m x 7 m x 4 m (46 ft. x 23 ft. x 13 ft.) surrounding the FB10000.

The customer should consult with a local ventilation/fume extraction specialist who will use these requirements to build a system to meet the ventilation requirements particular to the customer site.



Note The personnel required to complete the necessary arrangements and connections for ventilation and fume extraction should be available in time for the 2nd day of installation.

UV Extraction Fan

Fumes produced during the ink curing process as well as ozone and heat produced by the UV lamp should be extracted from the production area, using an adequate extraction system. A UV extraction fan and silencer is supplied with the FB10000.

The maximum distance between the UV extraction fan and the UV cabinet is **24 m** (78.7 ft.), which is the length of the electrical cable that connects these two components.

Table 4-17 describes the ducting that is required between the FB10000, the UV extraction fan, and the outside atmosphere (or the site's central extraction system).

Table 4-17 Connections to UV Extraction Fan

Connection	Type	Diameter	Description
From UV lamp to UV extraction fan inlet	Rigid (galvanized steel) or flexible (smooth bore)	200 mm (8")	Rigid: Maximum 10 m (33 ft.), up to three 90° bends Flexible: Maximum 10 m (33 ft.), up to two 90° bends, suitable for temperatures up to 120° C (248° F).
From UV extraction fan outlet to outside atmosphere (or central extraction system)	Galvanized steel	250 mm (10")	15 m (49 ft.), up to three 90° bends, terminated at least 5 m (16.4 ft.) above head height; provided by the customer

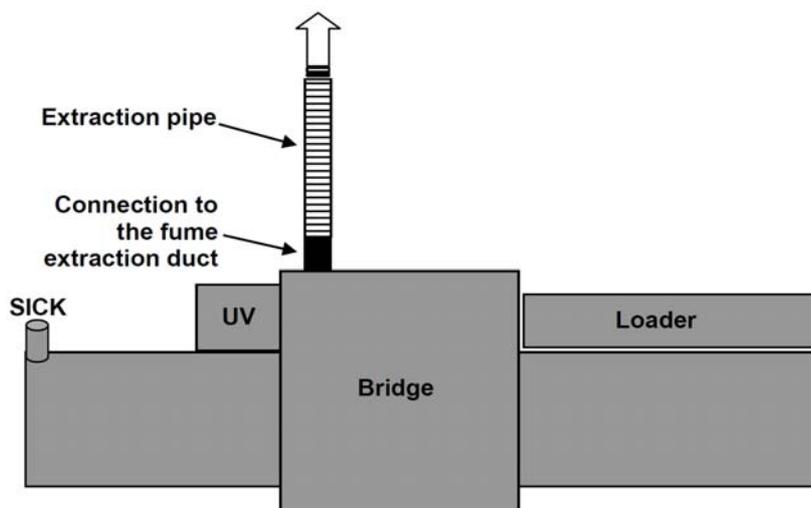


Figure 4-16 Connecting UV Extraction Fan to Central Extraction System of Site (example)



Note If the UV extraction fan is connected to the site's central extraction system, the system should operate at all times, otherwise it can affect the performance of the FB10000.

The silencer that is mounted on the UV extraction fan to reduce noise is 781 mm (31") in length. It has an inlet diameter of 100 mm (4"), and an outlet diameter of 200 mm (8").



Figure 4-17 UV Extraction Fan Silencer

VOC Content of Ink

For detailed information about the VOC content of the ink used by the HP Scitex FB10000 Industrial Press, refer to the MSDS at:

<http://www8.hp.com/us/en/hp-information/environment/msds-specs.html>

Networking Requirements

 **Note** The network connection to the FB10000 press is the responsibility of the customer's system administrator (and not that of HP).

- If the FB10000 press is to be connected to a network hub or another workstation, or if the supplied cable is too short, the customer is responsible for supplying a suitable network cable.
- The customer is responsible for providing a separate network connection for connecting the FB10000 press to the internet. This is a requirement for using the Call Me @ HP feature of Print Care, as described on page 50.
- One RJ-45 network socket is needed to connect the RIP workstation to the network. The customer should provide a **20 m** (66 ft.) long twisted pair network cable (RJ-45).
- If the customer is connecting the RIP workstation directly to the FB10000 computer via an Ethernet crossover cable (peer-to-peer), the maximum distance should not exceed **20 m** (66 ft.). In such cases, the RIP workstation requires two Ethernet ports, one port for the crossover cable and another port to connect the workstation to the network.
- The customer should install antivirus software to protect the RIP workstation.
- It is the customer's responsibility to protect the network cables from any lightning hazard.

RIP Applications

The RIP application is part of the FB10000 workflow and plays an important role in preparing the print files. The RIP application is used in various processes during file preparation in order to achieve the optimum image quality, job size, print resolution, color management, and much more.

The FB10000 system can be used with the following RIP applications:

- **Onyx Thrive**
- **Caldera GrandRIP+**

Support for the RIP applications is provided in accordance with the applicable purchase contract or support agreement between the HP Scitex and the customer.

The FB10000 press is supplied **without** the RIP hardware, and it is the customer's responsibility to purchase the computer required for the RIP application according to the specifications provided by the RIP application manufacturer.

Table 4-18 provides links to the hardware requirements for each supported RIP application.

Table 4-18 Links to RIP Application Hardware Requirements

RIP Application	Link
Onyx Thrive	http://www.onyxgfx.com/index.php?area=viewinfo&action=kbase&id=5017000000QxwwAAC
Caldera GrandRIP+	http://www.caldera.com/support/minimal-requirements/



Tip System performance can be significantly improved if you use more RAM and a faster CPU than those listed above.

The required hardware for the selected RIP should be available on-site before arrival of the FB10000 press. Otherwise, the installation procedure, system tests and application training may be affected.

Color Calibration

For measuring and managing color with the RIP application, HP Scitex strongly recommends that customers purchase a color measuring device (spectrophotometer). This tool enables customers to color characterize the FB10000 press for a broad range of media. It will also enable customers to achieve superior color calibration and image repeatability.

HP Scitex recommends the **X-Rite i1Pro 2** handheld device as the most appropriate color calibration tool for its systems.

For customers who demand even greater color capabilities, it is highly recommended to use the **X-Rite i1iO Automated Scanning Table**, which provides a complete solution for all color measurement and color management needs.

Call Me @ HP — Web Based Remote Support

Reference



For detailed information about Call Me @ HP, refer to "HP Scitex Call Me @ HP, Security Architecture Information Guide".

Call Me @ HP is a tool that integrates into the Print Care solution of the FB10000 press and offers a suite of web based troubleshooting capabilities that allows remote support agents to identify, diagnose, and resolve printing problems.

HP's support capabilities, and the support information collected, are utilized solely to provide world-class HP support. The Call Me @ HP architecture design protects both the customer and HP, while providing HP the capabilities necessary to quickly resolve critical support issues.

Call Me @ HP uses the following protocols and ports:

Table 4-19 Call Me @ Protocols and Ports

Protocol	Port	Support Mode
HTTP	80	Chat, File exchange
HTTPS (SSL)	443	Chat, File exchange
RFB over SSH	443	Remote Desktop
MMS	80	Streaming video
FTP	21	File exchange

Print Care requires an outbound connection to all the addresses in [Table 4-20](#) **without the use of a proxy.**

Table 4-20 URL Connections Required by Print Care

URL	HTTPS 443	HTTP 80	FTP 21	Used for
hp.com		X	X	Print Care/Production Analyzer content and data connectivity
https://spcastweb01p.saas.hp.com	X	X		
http://spcw01.saas.hp.com		X		
http://h50203.www5.hp.com	X	X		Call Me @ HP chat
G5w2114g.atlanta.hp.com		X		Call Me @ HP video streaming
http://15.192.17.253	X			Call Me @ HP remote control
http://15.192.17.254	X			
http://15.192.17.255	X			
http://15.193.0.102	X			
http://15.193.0.103	X			
http://15.193.0.104	X			
http://15.193.0.169	X			
http://15.193.0.170	X			
http://15.193.0.171	X			
google.com		X		Legacy Print Care connectivity check
u40.eset.com		X		Antivirus updates
u59.eset.com		X		
um10.eset.com		X		
um19.eset.com		X		
u4x.eset.com		X		
u5x.eset.com		X		
a.nod32.com		X		
update.eset.com		X		



Note The customer's IT personnel can create routing rules that route around the proxy for these addresses, if required.

In order for the Remote Desktop and Streaming Video features to exploit the proxy settings that are configured for Internet Explorer, these features have to be configured using the manual Proxy Server settings. Automatically detected proxies or scripted proxies are not supported by HP Print Care Call Me @ HP.

In addition, the customer is responsible for ensuring that FB10000 computer can connect to the following addresses using port 443 without a proxy:

- <http://15.192.17.253:443>
- <http://15.192.17.254:443>
- <http://15.192.17.255:443>
- <http://15.193.0.102:443>
- <http://15.193.0.103:443>
- <http://15.193.0.104:443>
- <http://15.193.0.169:443>
- <http://15.193.0.170:443>
- <http://15.193.0.171:443>

Connecting to any of the addresses listed above should result in the following message: **SSH-2.0-VShell_3_5_4_630 VShell**

If the FB10000 computer cannot connect to these addresses, the customer's IT administrator should be instructed to create routing rules that route around the proxy for these addresses.

Pit for Unloader Lift (optional)

Note  It is recommended to consult with an HP Scitex representative before choosing an unloading option.

The most common method for unloading media involves placing the unloader lift on the floor next to the HP Scitex FB10000 Industrial Press. The media is unloaded using a forklift, and no additional preparations at the customer site are required.

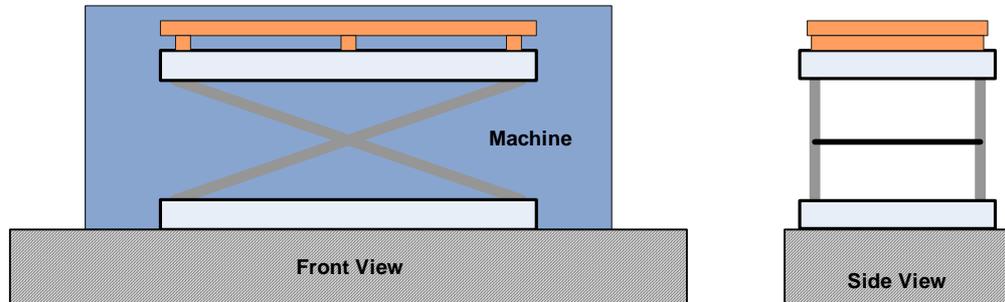


Figure 4-18 Standard Solution for Unloading Media

Caution  Care must be taken if a forklift is used to unload the media to ensure that the forklift does not collide with the machine covers.

Another option for unloading media is to dig a pit for the unloader lift, as shown in Figure 4-19.

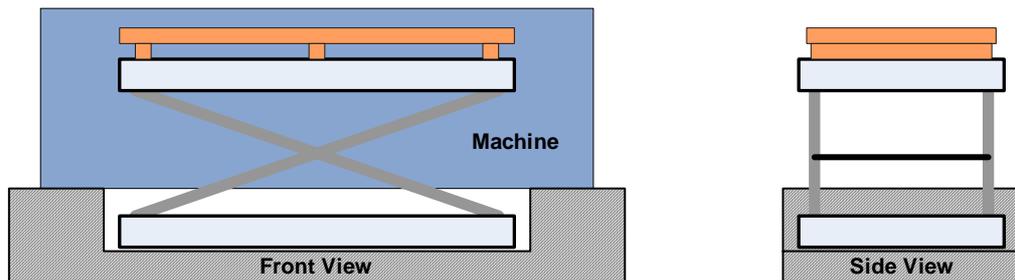


Figure 4-19 Media Unloading Option #2 — Unloader Pit

This option requires deepening the footprint area of the lift, as shown in Figure 4-19. The pit eliminates the height difference between the lift and the ground when the lift is loaded with media. The media is unloaded using a forklift.

The HP Scitex representative will help the customer to mark the floor for preparing the pit.



Figure 4-20 Pit for Unloader Lift



Note Deepening the footprint area of the lift is the customer's responsibility. The pit should be ready at least 3 days before machine delivery.

Unloader Pit Specifications

Table 4-21 Unloader Pit Specifications

Property	Value
Lift dimensions	1600 x 3200 mm (63 x 126 in.)
Pit dimensions	1640 x 3240 mm (65 x 128 in.)
Depth	300 mm (11.8 in.)
Pit floor flatness tolerance	Maximum deviation: 5 mm along length and width of pit
Pit positioning tolerance	Maximum deviation: 10 mm from floor plan
Wall-to-floor tolerance (slope)	Maximum deviation: 5 mm from vertical
Pit floor strength	Able to support 3 tons (weight of lift fully loaded with media)
Cable exit hole diameter	120 mm (4.7 in.)
Location of cable exit hole	In pit wall, at least 20 cm (7.9 in.) away from corner closest to REC (see Figure 4-22)



Notes To ensure that the pit is perfectly rectangular, it is recommended to measure the diagonals and compare the results. Both pit diagonals should be 3631 mm (143 in.). The unloader lift diagonals are 3578 mm (141 in.).

The use of a cementitious self-leveling floor screed, such as Sikafloor®, is recommended for best results.

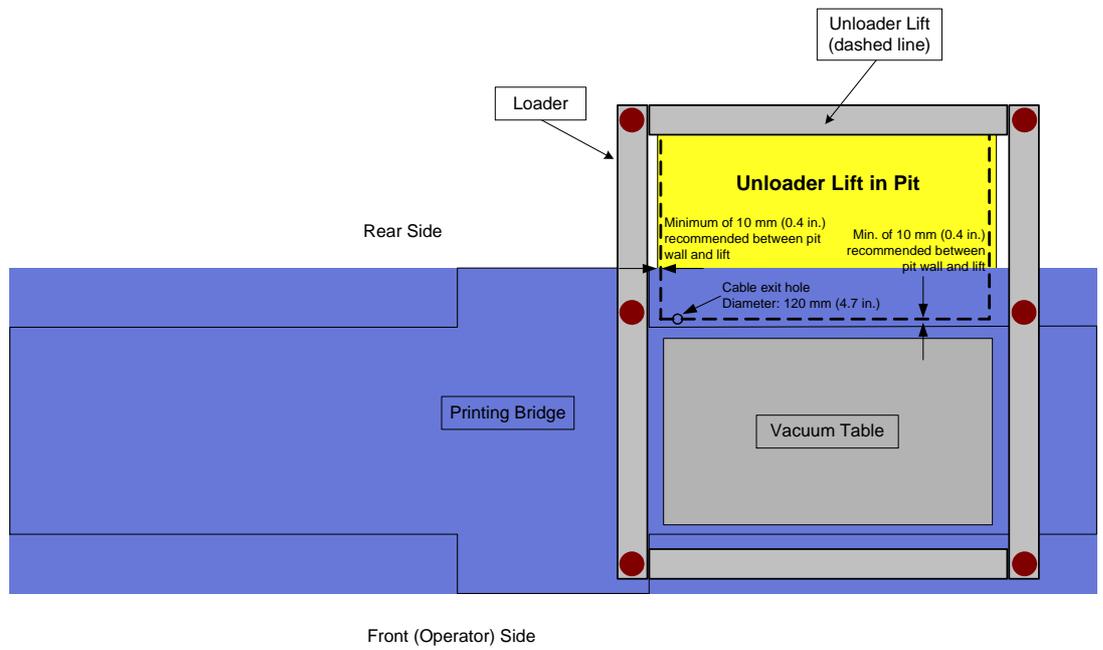


Figure 4-21 Unloader Lift Positioned inside Pit

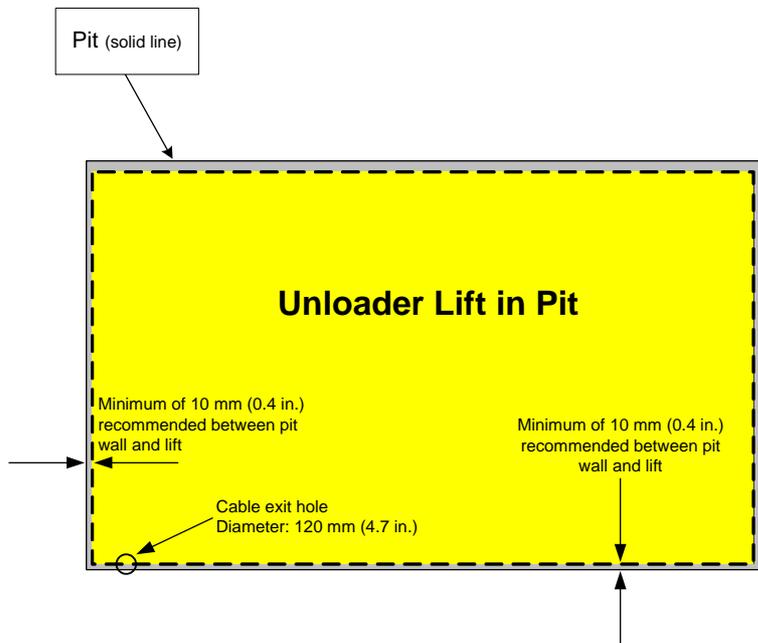


Figure 4-22 Closeup of Unloader Lift Positioned inside Pit

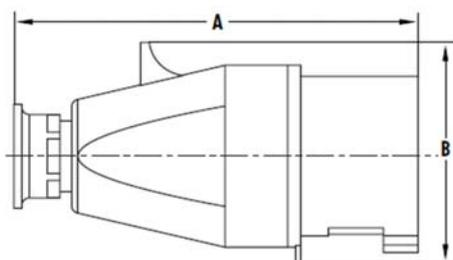


Figure 4-23 Unloader Lift Inside Pit

Exit Hole for Unloader Lift Cable

The unloader lift should be positioned so that its power cable, which arrives already connected to the REC, is close to the exit hole near the corner of the pit (see Figure 4-22). This makes it easier to connect the cable to the unloader lift during installation.

- **Length of connector:** 131 mm (5.2 in.)
- **Width of connector:** 90 mm (3.5 in.)



Connector for Power Cable on Unloader Lift

Figure 4-24 Unloader Lift Power Cable Connector

It is the customer's responsibility to prepare the exit hole for the unloader lift power cable. The hole can be of any shape as long as it allows the cable to pass freely from the pit to the rear cable channel on the FB10000.

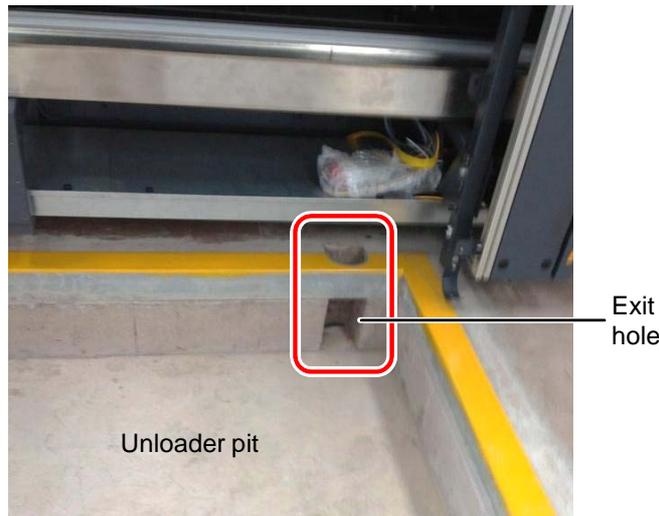


Figure 4-25 Exit Hole for Unloader Lift Power Cable

Lift Release Handle

The unloader lift comes equipped from the manufacturer with a mechanical handle, which can be used to lower the lift safely when the FB10000 is powered down. This handle, however, is located at the base of the unloader lift and is inaccessible when the lift is installed inside a pit.

For presses that are installed inside a pit, the unloader lift is equipped with a special lift release handle that is mounted on the frame of the unloader. The handle enables the operator to lower the lift safely and easily from a fully upright position.



Figure 4-26 Lift Release Handle

Machine Delivery and Rigging

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General

This document provides machine delivery and rigging information for the HP Scitex FB10000 Industrial Press.

Please read the instructions carefully prior to the delivery and unloading of the HP Scitex FB10000 Industrial Press. HP representatives supervise the unloading, unpacking, transfer and placement of the FB10000 at its final destination, and carry out the installation process.

Delivery Instructions

It is the customer's responsibility to order a qualified rigging company to carry out the unloading, opening, and unpacking of the HP Scitex FB10000 Industrial Press and all its peripheral components. It is the responsibility of the rigging company, in coordination with the customer, to provide the equipment required to carry out this process, as described in [Required Tools and Equipment](#) on page 61.

The system should be delivered to certified HP service engineers/installers, unless otherwise notified by the local Installation Leader.

The rigging company should assist HP Scitex personnel in unpacking the equipment. This procedure typically takes the first day of installation to complete.

Note



Do not unload and/or unpack the crates without the presence and approval of the HP Engineer/Installer.

The HP Scitex FB10000 Industrial Press (including accessories and media) is delivered to the customer site in multiple crates. For the dimensions and weights of each crate, see [Table 4-2](#) on page 21.

The largest crate, which contains the machine's main frame and loader, is typically delivered on an open flatbed truck. The rest of the crates arrive in a closed truck with a box trailer.

Note



The delivering, unloading, and conveying of the HP Scitex FB10000 Industrial Press should be performed by a minimum of four people provided by the rigging company.

Required Tools and Equipment

This section lists the tools and equipment that are required during machine delivery.

Heavy Duty Crane

A heavy-duty crane that is capable of lifting the main machine frame crate (8260 kg/ 18210 lbs.) is required.



Figure 5-1 Heavy-Duty Crane

Crane Accessories

Crane accessories include:

- Steel beam
- Chains
- Heavy duty straps
- Shackles

Table 5-1 Crane Accessory Specifications

	To lift main machine crate	To lift machine
Length of steel beam	2.4 to 2.5 m (7.9 to 8.2 ft.)	3.75 m (12.3 ft.) (see Figure 5-10)
Lifting capacity of beam	10 tons	10 tons
Number of straps	6 (4 straps connected to the beam; 2 straps support crate from underneath - see Figure 5-4)	4

Table 5-1 Crane Accessory Specifications

	To lift main machine crate	To lift machine
Length of straps	4 straps: 3 m (9.8 ft.) 2 straps: 4 m (13.1 ft.)	Loader side: 3 m (9.8 ft.) IDS side: 3.5 m (11.5 ft.) (see Figure 5-3)
Lifting capacity of straps	5 tons	5 tons
Length of chains	2 m (6.6 ft.)	2.5 m (8.2 ft.)
Lifting capacity of chains	8.2 tons	8.2 tons
Link diameter	16 mm (0.6 in.)	16 mm (0.6 in.)
Number of shackles	8	9
Lifting capacity of shackles	6.5 tons	6.5 tons

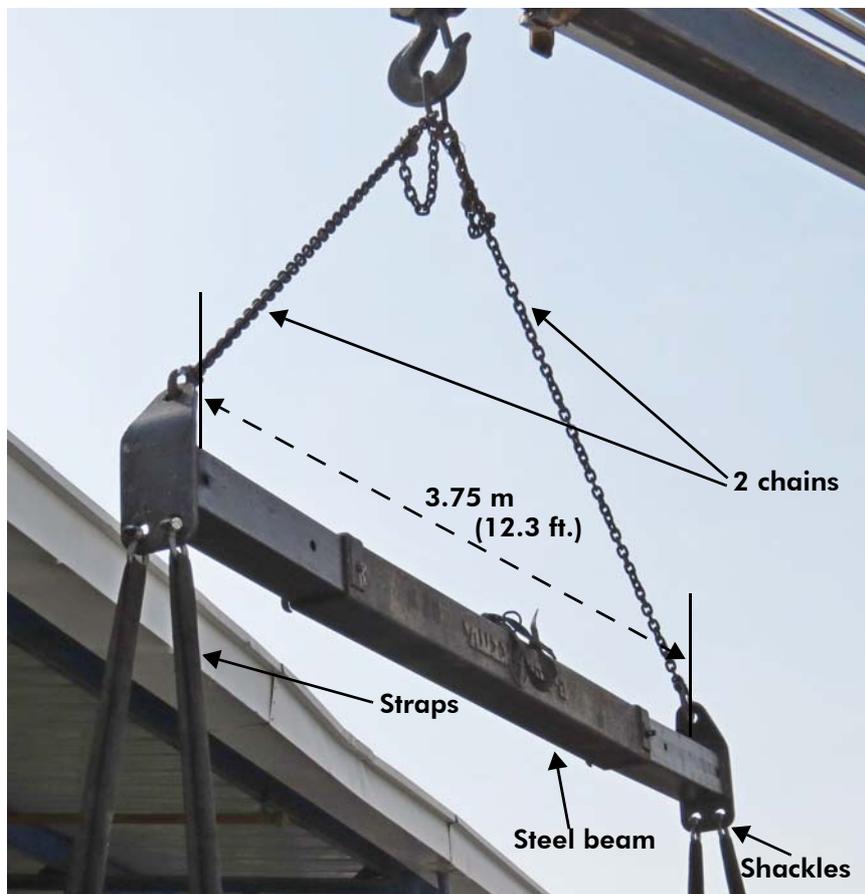


Figure 5-2 Crane Lifting Accessories – Steel Beam and Chain

Important



The chains must be attached to the ends of the beam, and not to its middle, so that the beam will be compressed rather than bent.

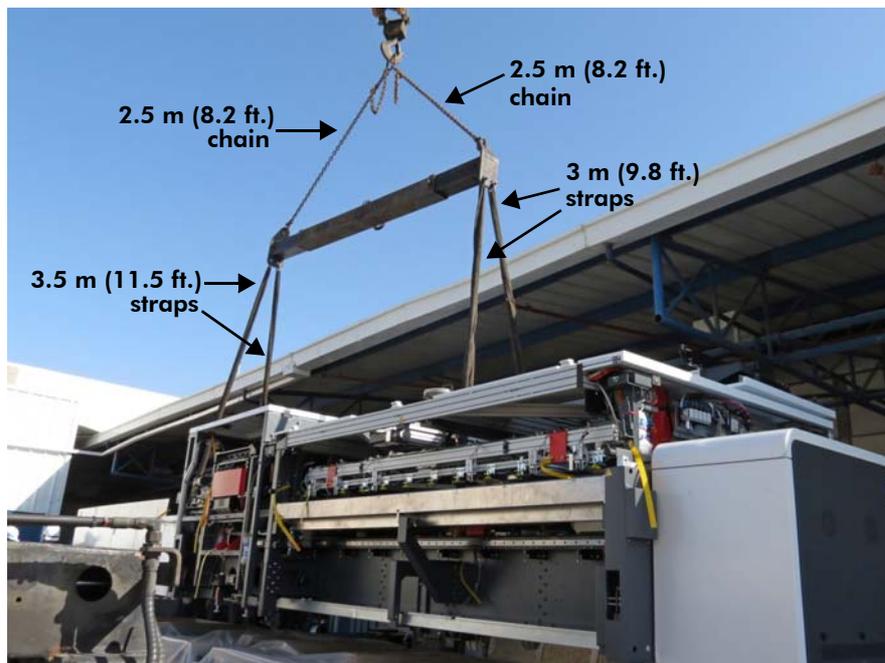


Figure 5-3 Steel Beam and Straps to Lift Machine

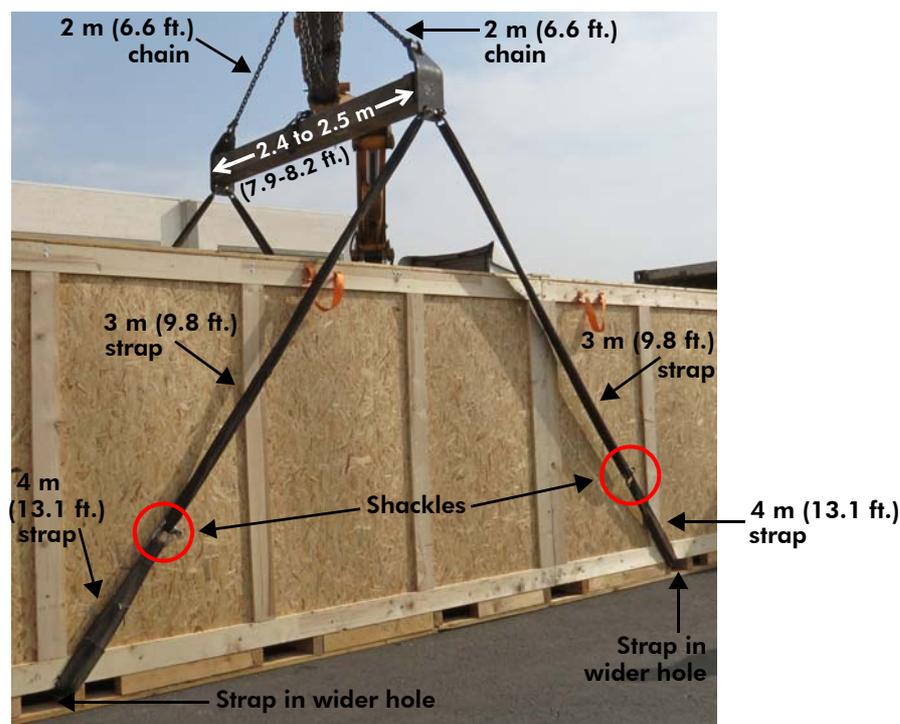


Figure 5-4 Using 6 Straps to Lift Main Machine Crate

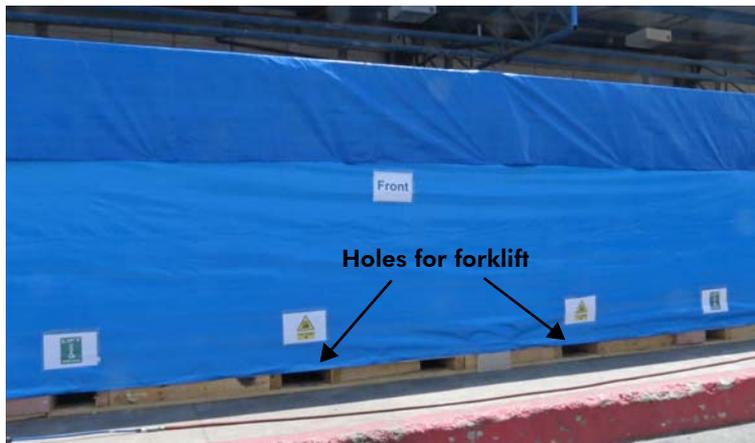
Lifting the Main Machine Frame Crate with a Forklift

An alternative method for lifting the main machine crate is to use a heavy-duty forklift with a lifting capacity of 16 tons.



Figure 5-5 Heavy-Duty Forklift (16 tons)

When using a forklift to lift the main machine crate, the blades of the forklift must be inserted in the designated holes of the crate, as shown in [Figure 5-6](#).



**Hole for
inserting forklift**



Figure 5-6 Holes in Pallet for Heavy-Duty Forklift

Additional Tools

The following tools are required during the FB10000 delivery and unpacking process:

- **Standard forklift** — for transporting machine components at the customer site (except for the main machine frame crate)



Figure 5-7 Lifting Vacuum Pump from Pallet with Forklift

- **Manual forklift**
- **Dollies** — to transport the FB10000 over inclines that exceed 2°.



Figure 5-8 Dolly

- **2 large adjustable wrenches**
- **17 mm (0.66 in.) Allen wrench (or 17 mm bit socket)** — to open the eyebolts on the chassis
- **Air compressor and air impact wrench, air-screw gun or screw gun (drill)**
- **Socket set** — small and large sizes
- **Vise grips**
- **Two 1.8 m (6 ft.) ladders**
- **Knife and/or cutting tools**
- **2 wireless electric drills**
- **Phillips head drill bit**

Unloading the Main Machine Frame Crate

Note Prior to arrival, mark the final position for the FB10000 using masking tape.



The main machine frame crate is typically delivered on a flatbed truck, as shown in Figure 5-9.



Figure 5-9 Flatbed Truck Delivering the Main Machine Frame Crate

To unload the main machine frame crate:

- 1 Lift the main machine frame crate from the flatbed truck using a crane with a steel beam, straps, and chains, as shown in Figure 5-4 on page 63. The specifications for the beam, straps, and chains are described in Table 5-1 on page 61.

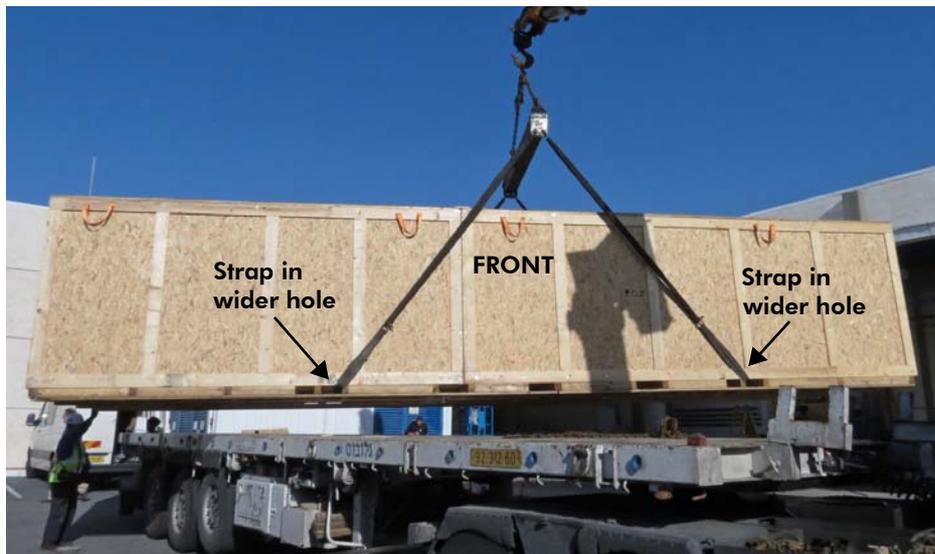


Figure 5-10 Lifting the Main Machine Crate with a Steel Beam and Straps

Note



The main machine frame crate can also be removed using a heavy-duty forklift, as shown on page 64.

- 2 Carefully place the crate on a flat surface. The crane can place the machine on the ground (if the machine is unpacked outdoors) or inside the building (if the machine is unpacked indoors).

Unpacking the Main Machine Frame Crate

The main machine frame crate consists of two halves that are connected in the middle. The crate is constructed so that it is possible to open it quickly by removing one half at a time using the crane.

Note The steel beam needs to be removed from the chains in order to perform this procedure.



To unpack the main machine frame:

- 1 Use an air impact wrench or drill to remove the bolts along the bottom of one half of the crate.



Figure 5-11 Removing Bolts at Bottom of Crate

- 2 Remove the bolts that secure one half of the crate to the support beams on the sides where the two halves meet.



Figure 5-12 Removing Bolts from Center Support Beam

- 3 Remove the support beam where the two halves meet on top of the crate.
- 4 Attach the chains hanging from the crane to the four loops on one half of the crate. Use shackles to attach the chains to the loops.



Figure 5-13 Attaching Chains to Crate

5 Carefully lift and remove the half crate using the crane.



Figure 5-14 Removing Half the Crate Using the Crane

- Repeat steps 1 through 5 to remove the other half of the crate.

Caution



Do not climb on top of the crate. Use ladders.

- Carefully cut and remove the protective wrapping from the machine.
- There are 6 bolts that secure the machine to the pallet. Remove the nuts from the top of the bolts to release the machine. The machine is then ready to be lifted from the pallet.



Figure 5-15 Removing Securing Bolts from Pallet

- Attach 3.5 m (11.5 ft.) straps to the eyebolts on the far side of the chassis. (The correct length can be achieved by attaching short straps to standard 3 m [9.8 ft.] straps, as shown in Figure 5-16.)

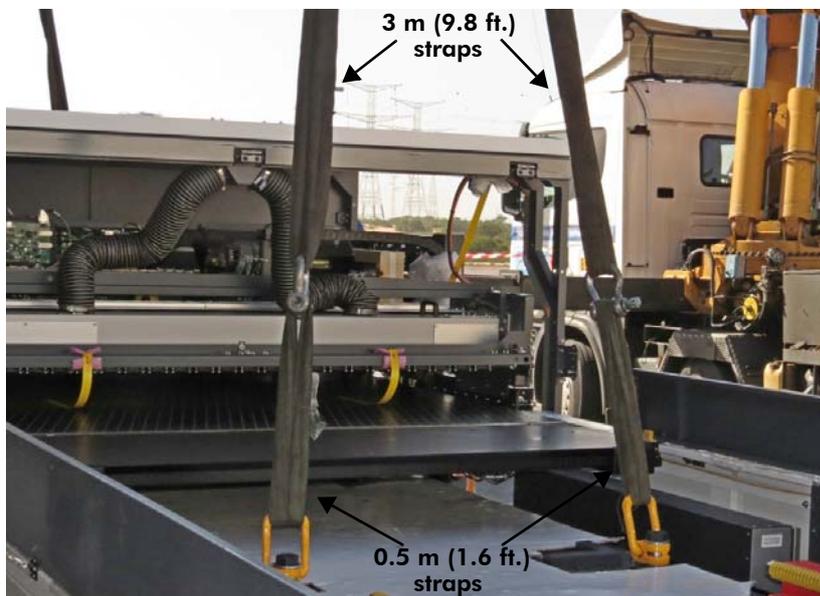


Figure 5-16 Attaching Straps to Eyebolts

- 10 Attach **3 m (9.8 ft.)** straps to the eyebolts on the loader side of the chassis. The straps should be inserted in the space between the panels on top of the loader, as shown in [Figure 5-17](#).

The straps should be connected with **2 shackles** to the eyebolt and 1 shackle to the steel beam on its other side.



Figure 5-17 Straps Attached to Eyebolts on Loader Side

Caution



Before lifting the machine with the crane, make sure that all four eyebolts are oriented towards the center of the machine and that the handles do not cross over the bolt, as shown in [Figure 5-18](#).



Figure 5-18 Orientation of Eyebolts when Lifting Machine (drawing is not to scale)

- 11 Using the crane with accessories described in [Required Tools and Equipment](#) on page 61, lift the machine from the pallet (see [Figure 5-19](#)).



Figure 5-19 Lifting the Machine from the Pallet

- 12 Carefully lower the machine onto the ground and place it on its wheels.
- 13 Remove the straps and shackles from the eyebolts.
- 14 Move the machine on its wheels to its final position, according to the instructions provided by the certified HP Field Service Engineer.

Caution



It is strictly forbidden to use a forklift to lift the machine frame at any time. The only way to lift the uncrated machine is by using the crane with accessories and lifting it by the four dedicated eyebolts (attached to the machine).

Returning the Shipping Brackets

After machine installation is complete, the Installation Leader or one of the HP Field Service Engineers will collect the shipping brackets that were used to secure the HP Scitex FB10000 Industrial Press during transport, and will return them to the HP Scitex factory.



Figure 5-20 Shipping Brackets

Please note that these brackets are used only to prevent machine components from moving in transit. They are not required for machine operation.

The customer is asked to serve as the exporter of record and shipper of these items. HP Scitex provides a pro-forma invoice for the shipment.



Figure 5-21 Packing Shipping Brackets for Shipment

Disposing of Shipping Crates

It is the customer's responsibility to dispose of the wooden shipping crates at the conclusion of the unpacking process, in accordance with local regulations.

For more information about the shipping crates, see [Table 4-2](#) on page 21.

Additional Information

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Site Readiness Checklist

HP Customer Engineers should fill out the following checklist when conducting the site survey with the customer.

Table A-1 Site Readiness Checklist

General Access & Site Readiness		
Requirement	Guidelines	Customer Site
Customer received the Site Preparation Guide?		Y / N
Dock type		<ul style="list-style-type: none"> • Ground level • Truck height • Ramp • No dock
Passageway width	(minimum 244 cm/96")	
Passageway height	(minimum 250 cm/98.4")	
Unloading location		<ul style="list-style-type: none"> • Inside • Outside
Route clearance		<ul style="list-style-type: none"> • Good • Needs to be cleared
Ceiling height	(minimum 350 cm/138")	
Is the floor made of smooth concrete?		Y / N
Can you drill into the floor?		Y / N
Floor strength		Good / Bad
Floor condition		Good / Bad
On what floor of the site will the press be installed?	(e.g. ground floor, basement, 2nd floor, etc.)	
Unloader pit required?		Y / N
Power/Lighting Requirements		
Requirement	Guidelines	Customer Site
Volts		
Amps		
Is a transformer required?		Y / N
Transformer KVA		

Table A-1 Site Readiness Checklist

Is the mains power supply connected?		Y / N
Are power outlets installed?		Y / N
Is there a connection to ground?		Y / N
Pneumatic Requirements		
Requirement	Guidelines	Customer Site
Is there an air compressor?		Y / N
Air compressor type		Piston / Screw
Size of air tank (liters)		
Is there an air dryer?		Y / N
Does the air dryer achieve 43 CFM?		Y / N
Is there sufficient space for the vacuum pump & piping?		Y / N
Is there an extraction hose for the UV system?		Y / N
Environmental Requirements		
Requirement	Guidelines	Customer Site
Are light sources filtered to block UV light?	No radiation peaks below 400 nm. UV light from windows blocked by 99.97%.	Y / N
Site temperature	17-30°C/63-86°F	
Site humidity	50-60% Rh	
Temperature controller type		<ul style="list-style-type: none"> • HVAC • AC • Heater • Other • None
Is an air extraction system available?	1300 m ³ /hr. (765 CFM) in the area surrounding the press	Y / N
Are sufficient fresh air exchanges available?	According to the customer's ventilation specialist (1800 m ³ /hr. [1059 CFM] in the area surrounding the press)	Y / N

Table A-1 Site Readiness Checklist

Is the production area dust free?		Y / N
Ink storage system		<ul style="list-style-type: none"> • Ink room • Fireproof cabinet • Rack system • Other • None
Are there suitable ink storage conditions?		Y / N
RIP & Networking Requirements		
Requirement	Guidelines	Customer Site
Is there a RIP workstation?		Y / N
RIP workstation type		<ul style="list-style-type: none"> • PC • Mac • PC-Linux • Not sure
Is a network connection available between the RIP workstation and the machine computer?		Y / N
Which RIP application will be used?		<ul style="list-style-type: none"> • Caldera • Onyx • Other
Is there a UPS available?		Y / N
Is there a telephone line installed?		Y / N
Are all the outbound ports required by Print Care open?		Y / N
Safety Requirements		
Requirement	Guidelines	Customer Site
Is there an eye wash station in the production area?		Y / N

FB10000 Layout

The following page contains a sample layout of the HP Scitex FB10000 Industrial Press and its additional components.

