



# **Fujifilm Acuity F Series**

## **Site Preparation Guide**

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FujiFilm Speciality Ink Systems Ltd.  
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## Preface

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### Document Summary

Date		Revision	Summary
09/07/14		Revision A	First Release
29/01/15		Revision B	From Océ document Revision C  Updated shipping crate weights, added reference to standby power consumption, added a specific air scrubber model (ICA Duster 3000 or equivalent) and information about the power connector required.

# 1 – General Product Description

## Fujifilm Acuity F Series Printer

Fujifilm Acuity F Series flatbed inkjet printers consist of a vacuum table, a moving gantry, and a podium with the user interface display.

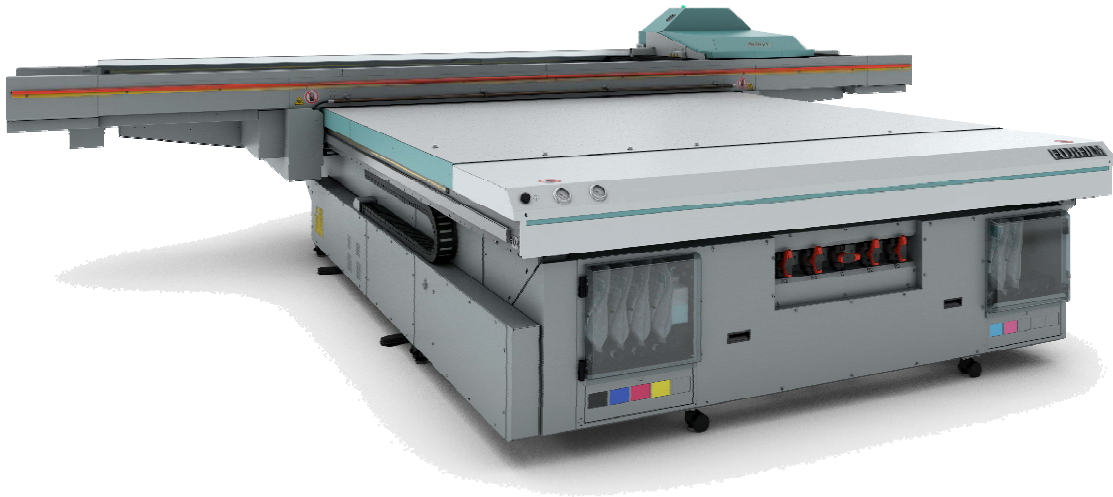


Figure 1 – Fujifilm Acuity F Series printer



**Important Note:**

All Fujifilm Acuity printers must be operated in accordance with the environmental conditions specified in this Site Preparation Guide.

User Documentation and other support material for the Fujifilm Acuity printers are available from your local service provider.

## 2 – Shipping & Handling

The printer is shipped in three separate crates. Due to the delicate nature of the contents it is essential to have the proper equipment available for handling and moving the shipping crates. Packed in their crates, the equipment can withstand normal vibrations from road or air travel. Severe shock, may damage the precision components, so each crate is fitted with shock watches that turn from white to red when their specified limits have been exceeded. Tamper-proof seals are also added to ensure the crate has not been opened and the contents interfered with. All equipment must be un-crated by a Fujifilm qualified service engineer.

### Fujifilm Acuity F Series Shipping Crates

Ramps are provided so the larger pieces of equipment can be rolled down from their crates to the floor. The tables will ship with their loads supported by their 4 leveling pads. The ramps are located in the table crate 1.

- Table Crate 1: Table, Large Overlay x 2, Small Overlay, Maintenance door, Ramps
- Table Crate 2: Table, Vacuum Pump x 2, User Interface Monitor
- Gantry Crate: Gantry/E-Box, Ink Bay, User Interface Podium

#### Crate Dimensions and Weight

	Table Crate 1	Table Crate 2	Gantry Crate
Weight	<b>1058kg (2332lb)</b>	<b>978kg (2156lb)</b>	<b>1398kg (3082lb)</b>
Width	1.52m (60")	1.52m (60")	1.36m (53.5")
Length	4.98m (196")	4.98m (196")	5.88m (231.5")
Height	1.15m (45")	1.15m (45")	1.82m (72")
Tilt Angle (max)	45°	45°	45°

Table 1 - Crated Dimensions & Weights

Dimensions include allowances for bolt heads

#### Forklift Guidelines:

- Long side lift - fork length minimum of 1.45m (57 inches)
- Short side lift - fork length minimum of 3.3m (130 inches)



**Caution:**

The crates must not be tilted greater than 45 degrees. Try to keep the crates level at all times.

#### Un-Crating Requirements

##### Tools Needed:

- Impact driver with 1/2" socket - 13mm socket/ratchet
- Drill with "Philips" P2 bit
- Utility knife

Space Required for uncrating [Gantry = 13m x 3m (43ft x 10ft) and Table = 6m x 6m (20ft x 20ft)]  
Note: the Table uncrating minimum distance is 5.2m (17") but the recommended is 6m (20').

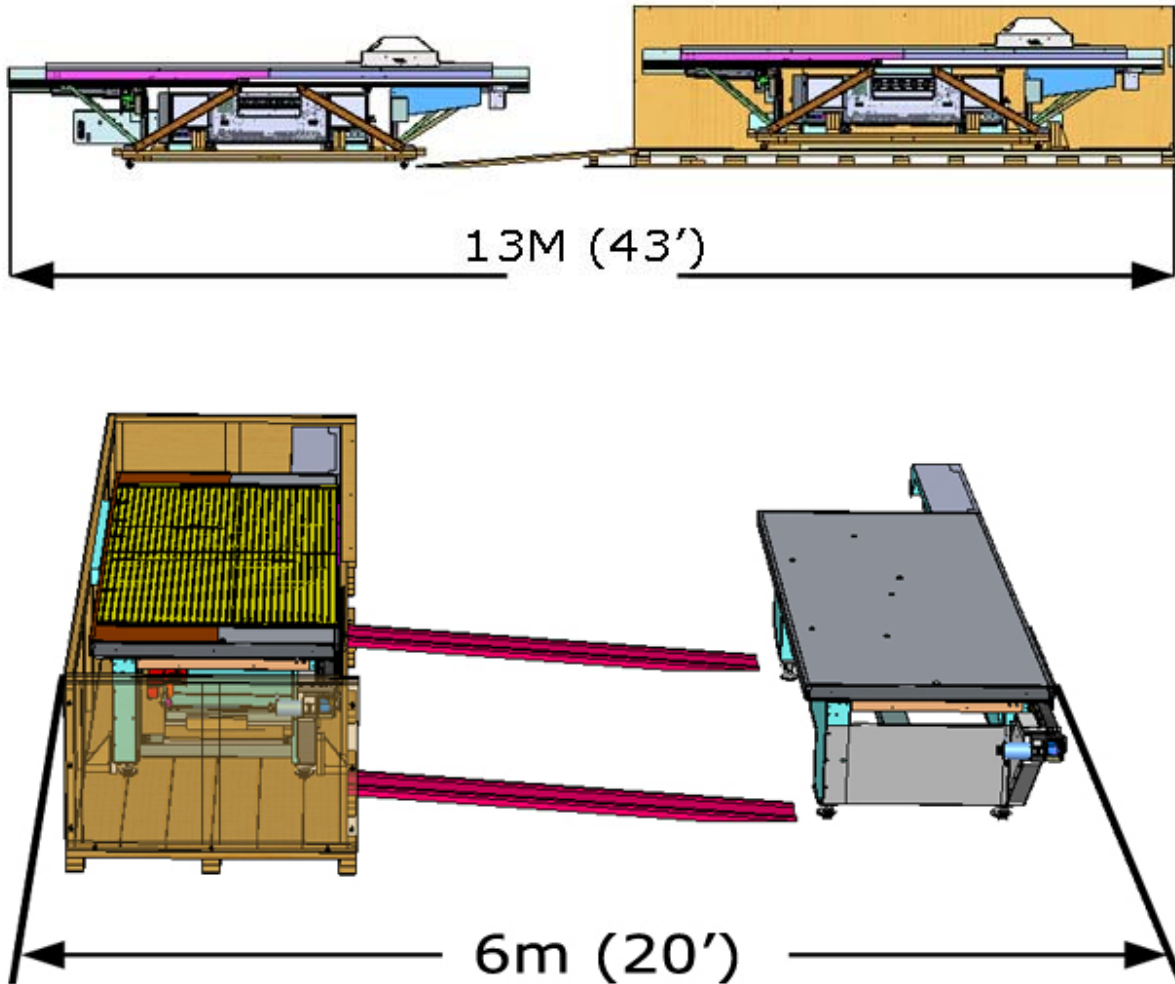


Figure 2 - Space Requirements for Un-crating the Fujifilm Acuity F Series printers



**Important Note:**

If a printer need to be moved after the initial installation, it must be fully dismantled and reinstalled by a factory trained service technician no matter how small the distance of the move.



## Fujifilm Acuity F Series Gantry Crate Contents

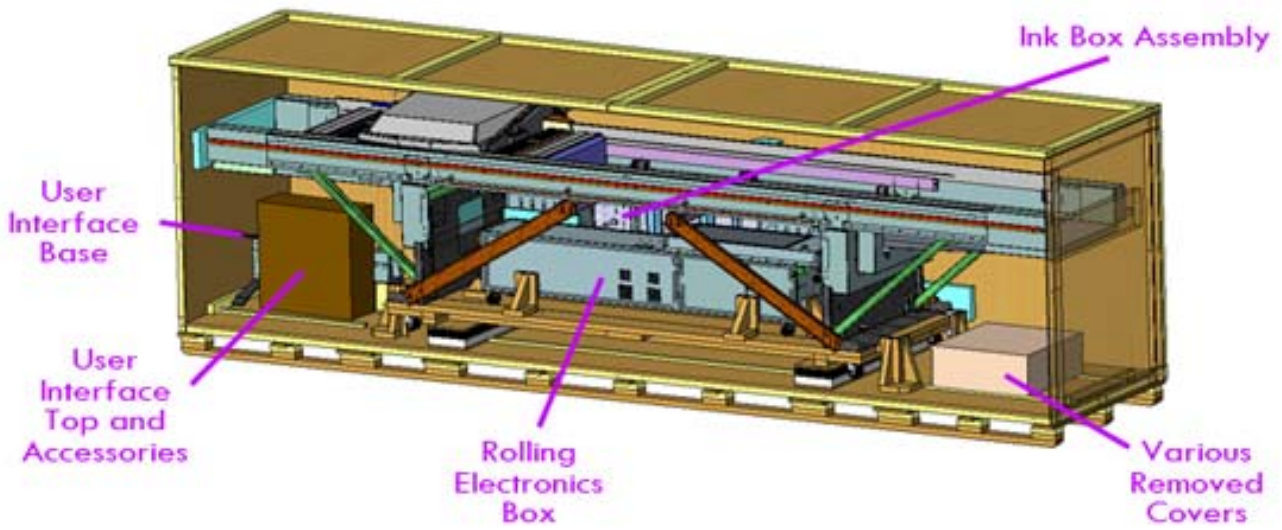


Figure 3 – Gantry Crate

## Fujifilm Acuity F Series Table Crate Contents

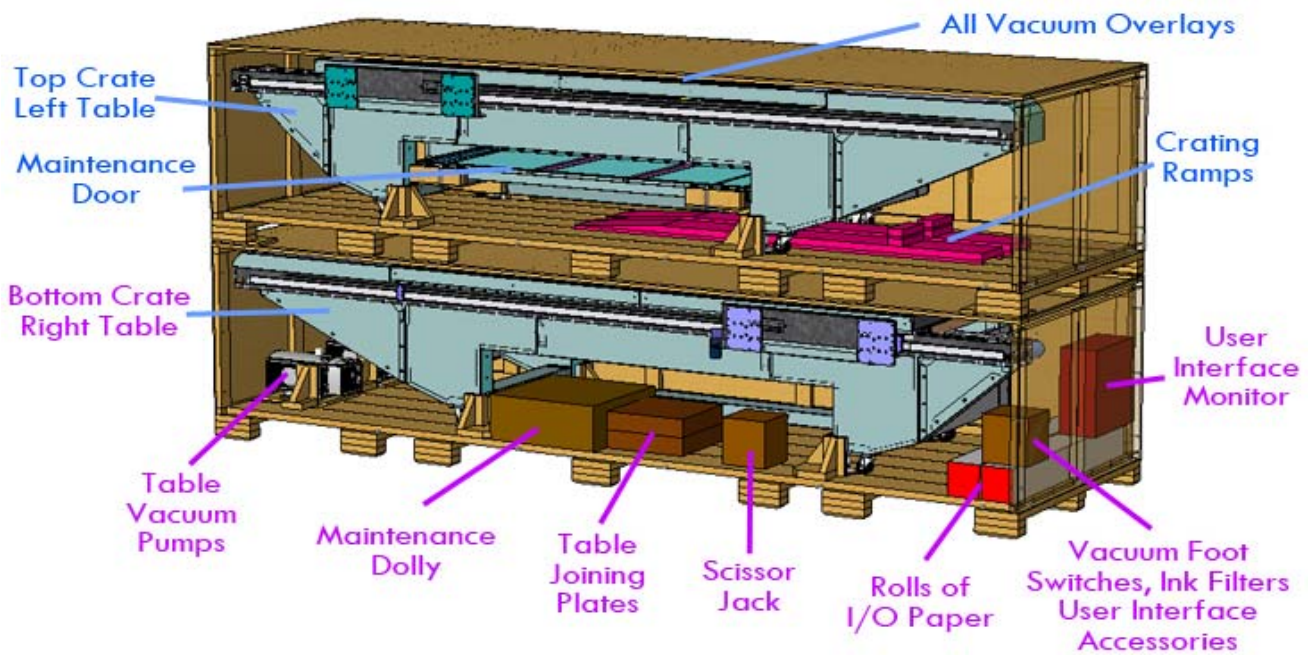


Figure 4 – Table Crates



**Important Note:**

Fujifilm Acuity F Series table crates are designed to be stacked. Make sure they are stacked as shown. Do not tilt the table crates when they are stacked.

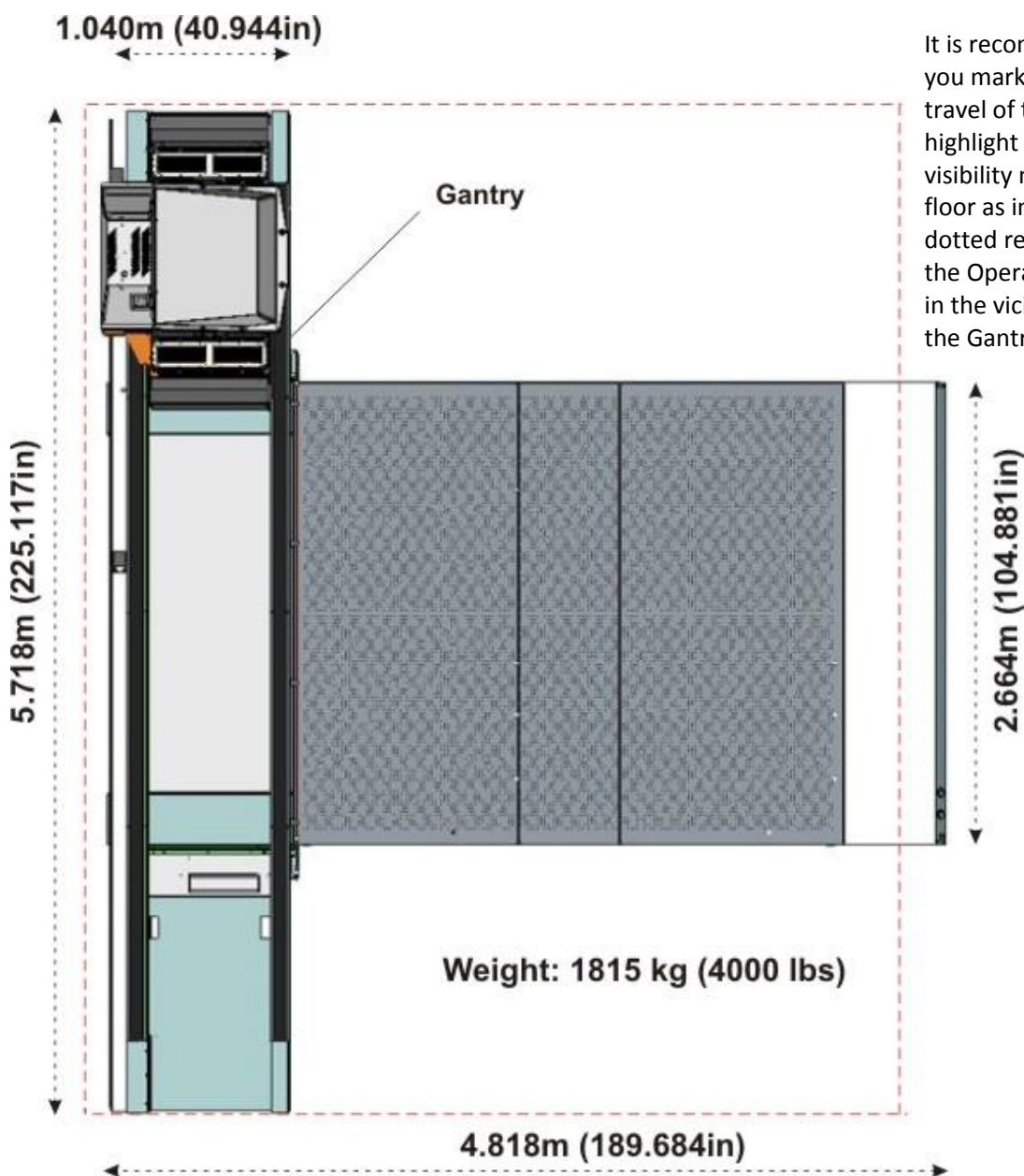
### 3 – Specifications & Requirements

#### Facility Hallway Requirement

To move the uncrated tables and gantry within a facility a minimum hallway width or door opening of 1.41m (55.5") is required. This allows for approximately 75mm or 3in of total clearance.

#### Printer Dimensions & Weight

Table Height: 0.905m (35.6in)    Gantry Height: 1.486m (58.5in)



It is recommended that you mark out the area of travel of the Gantry in highlight or similar high visibility marking on the floor as indicated by the dotted red line. This helps the Operator and others in the vicinity be aware of the Gantry motion.

Figure 5 – Acuity F Series Dimensions

### Operation Space Requirements

The minimum area required for normal operation, maintenance and safety of the printer is 9m x 10m (30ft x 32.8ft) as shown in the Figure below. This allows for 2m (6.5ft) of open space around the printer.

All printers must be installed directly on a rigid floor. The precise alignment and level of the two joined tables will be compromised if the floor support is flexible. Concrete is the recommended floor material. Carpeted or wood floors are not acceptable. If you require an illustration of the location of the printer feet, please refer to your local Fujifilm dealer.



**Important Note:**

The area around the machine must be kept clear of obstructions.

Cables must be managed to prevent tripping (use the supplied rubber cable protectors).

Media must be stored at least 2m (6.5 ft) from the printer.

For maintenance and safety, 2m (6.5ft) of open space around the printer is recommended.

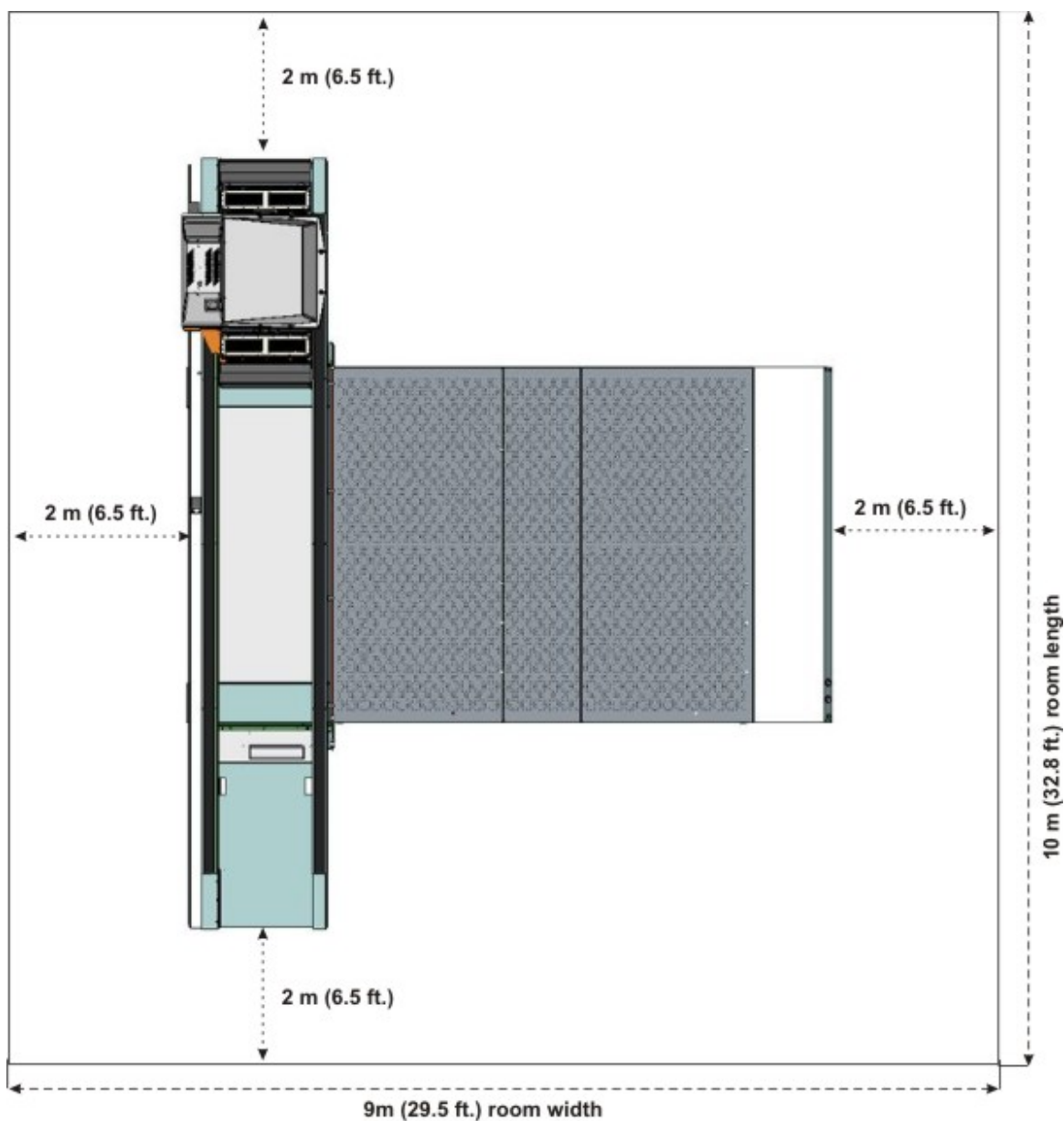


Figure 6 – Minimum Operating Space for Fujifilm Acuity F Series Printers

**Recommended Room Size**

A typical printer setup including 2 stacks of 1.25m (4 feet) x 2.5m (8 feet) media is shown below. For the printer to function at full productivity it is recommended a minimum of 9m x 13m floor space is required. In order to support the handling of large boards a minimum 3m ceiling height is recommended. This creates a minimum room volume of 350m<sup>3</sup>.

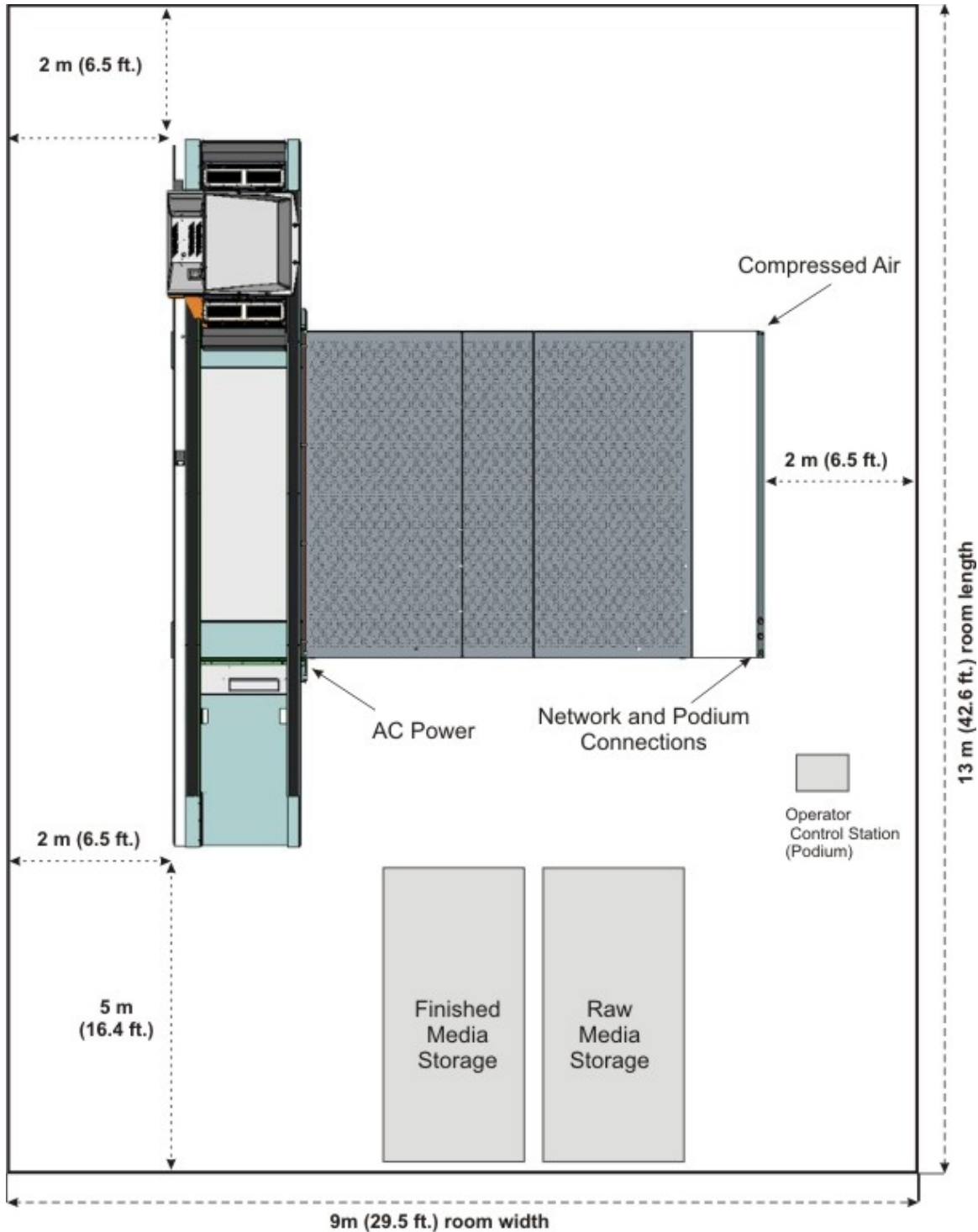


Figure 7 – Recommended Operating Space for Acuity F Series Printers

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# Electrical and Air Requirements

## AC Power and Wiring

### Power Requirement

All versions of the printer require a single 3 Phase Delta or Wye independent power circuit. It is the customer's responsibility to hire a qualified electrician to provide the appropriate electrical service to the printer. No power cord is supplied for the printer.

#### Machine Ratings:

200 – 240 VAC "Δ" Delta

347 – 415 VAC "Y" Wye

30A "Δ" Delta

17A "Y" Wye

50/60Hz

### Recommended Circuit Breakers:

50A Delta (North America) Type D

30A Wye (European Union) Type D

**Recommended Wire Types** – the Acuity F Series printers are designed to accept the following:

- 200 – 240 Vac "Δ" Delta 5Wire Conductor is 6AWG/13.3mm 2/4 conductor CSA Type SOOW Bulk Electrical Wire, Rated 600V, 50A, Water/Oil Resistant Portable Cord or Equivalent, less than 1.296mOhms/meter.
- 347 – 415 Vac "Y" Wye is 8AWG/8.36mm2/5 conductor CSA Type SOOW Bulk Electrical Wire, Rated 600V, 35A, Water/Oil Resistant Portable Cord or Equivalent, less than 2.061mOhms/meter.



#### **Caution:**

Ensure the Heyco M3204 strain relief is installed correctly. Datasheet can be downloaded here: [http://www.heyco.com/Liquid\\_Tight\\_Cordgrips/pdf/3-02.pdf](http://www.heyco.com/Liquid_Tight_Cordgrips/pdf/3-02.pdf)

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The printer is manually configurable to support either delta or wye type power connections. See the Configuration Diagram on next page:

**Delta and Wye Circuit Breaker and Block Configuration**

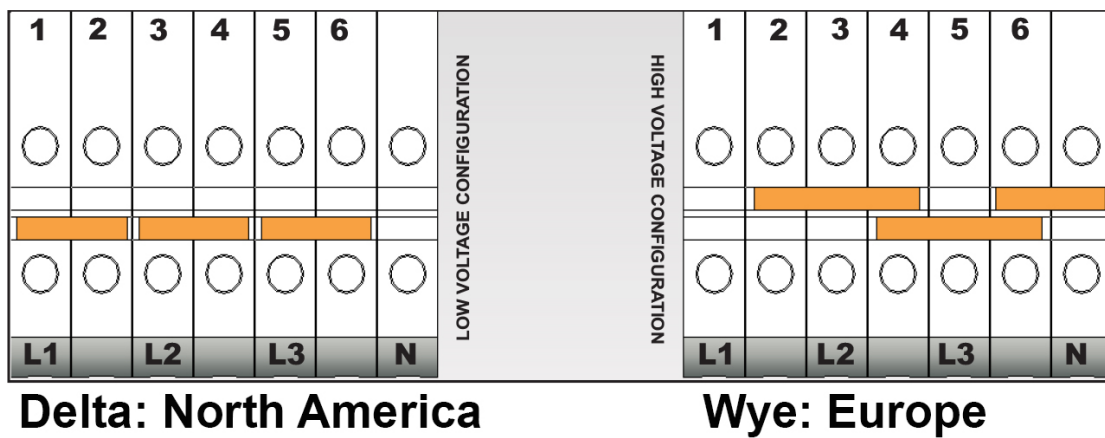


Figure 8 – Wye and Delta Configuration



**Caution:**

On initial connection to the three phase power, the rotation of the table Vacuum Pump(s) must be confirmed. If the pump(s) turn in reverse, change any two phases of the three phase connection.

DO NOT run the table Vacuum Pump(s) if they are not rotating correctly and pulling a vacuum for an extended period of time. Damage to the pumps will result.



**Caution:**

**Protective Earth: These machines produce High Leakage Currents.** Earth connection ESSENTIAL to the safe operation of these machines.

Two connection types are possible: NON-DETACHABLE POWER SUPPLY CORD or PERMANENTLY CONNECTED.

For machines using a **NON-DETACHABLE POWER SUPPLY CORD:**

Use both bonding connections. Portable cordage can use the bonding connection identified by the PE Label. Additionally, run a separate PE connection and connect to the terminal located on the outside of the E-Box.

For **PERMANENTLY CONNECTED** machines:

Use the bonding connection identified by the PE Label. If desired and for added safety, run a separate PE and connect to the terminal located on the outside of the E-Box.



**Important Note:**

Ensure the **PE/Bond** conductor is 100mm longer than the other conductors required to make the connection. In the event the supply connection wires are pulled out, the **PE/Bond** connection is last off.

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## Grounding

**Caution:**

High Leakage Current - Earth Connection Essential for Safe Operation of Acuity Printers.  
The PE/Ground conductor must be 14 AWG or 2.5 mm - 2 minimum for each Connection.

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**Important Note:**

If it is necessary to isolate the entire printer electronics, unplug the power cord from the wall socket.

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**Caution:**

THE SOCKET OUTLET MUST BE INSTALLED NEAR THE PRINTER AND BE EASILY ACCESSIBLE.

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**Attention:**

LA PRISE DE COURANT DOIT ÊTRE INSTALLÉ A PROXIMITÉ DE L'IMPRIMANTE ET DOIT ÊTRE FACILIMENT ACCESSIBLE.

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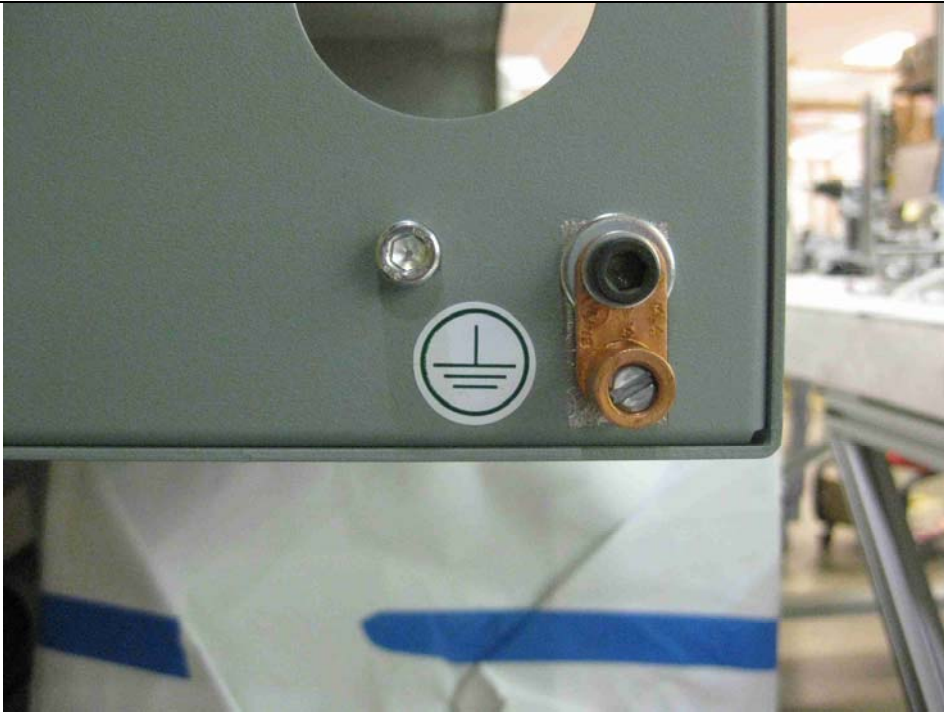
**Caution:**

DIE STECKDOSE SOLLTE NAHE AN DER DRUCKER UND LEICHT ZUGÄNGLICH SEIN.

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Figure 9 – PE Terminal located on the inside of the E-Box.



*Figure 10 – Bond Terminal located on the outside of the E-Box.  
For Use with NON-DETACHABLE POWER SUPPLY CORD.*

### **Stand-by Power Consumption**

If you intend to use a UPS, power consumption in stand-by mode must be considered when you select a UPS to ensure that the printer always stays switched on during non-operation times.

The printer consumes fewer than 200 Watts at rated voltage when idle (not printing)

The printer consumes the full rated current at rated voltage when the lamps and Table Vacuum are on.

### **Connectivity**

The printer requires a standard Ethernet cable (not supplied) to connect to the customer's 10/100 Base-T or GigaBit network. See figure 7 for the location of the network connector.



**Compressed Air**

Compressed air is required for the operation of the following subsystems:

- Air bearings for carriage linear motion
- Media registration pins
- Automatic printhead maintenance stations

**Compressed Air Requirement**

- Dry air only (not included)
- Peak flow: 12 cfm at 100psi
- Continuous flow: 2cfm at 100psi

The customer is responsible for providing the following compressed air support hardware:

- Coalescing filter
- Air regulator
- ½ inch OD air tubing – connects air regulator to printer

The regulator must be set to 105psi. This will insure a downstream pressure of 100psi for the air bearings.

# Environmental Requirements

## Operating Conditions

The Fujifilm Acuity F Series printers will operate at an optimum level in a controlled environment. The area where the printer is installed should be reasonably free of dust and other airborne particles (for example, the printer should not be placed in an area that is carpeted or where routers, sanders or trimmers are used.



**Important Note:**

All inkjet printers are prone to image quality problems when there is airborne dust or other debris that can interfere with the jetting of ink from the printheads.

**Temperature:** 18°C to 30°C (64°F to 86°F)

Under continuous operation the printer can produce up to 32,800 BTU per hour (9600 watts). Depending on the print room size an air conditioning system may be necessary in order to maintain the ambient temperature. In addition, maintaining a 4°C temperature band within the 18°C to 30°C window is recommended to ensure consistent printing results from print to print throughout the day.

**Relative humidity:** 30% to 70% (Non-condensing)

**Altitude:** 2000 meters (6560 feet) maximum

### Ventilation and Operating Space Specification

Room Ventilation Rate (air changes/hr): 6

The room ventilation rate is based on typical emissions generated by the printer running at maximum capacity. It does not consider emissions from sources other than the printer such as media, media primers, cleaning solutions or other printers.

### Air Filtration System

Fujifilm Acuity F series printers, like all piezoelectric drop-on-demand printers, will introduce a certain amount of chemical emissions into the atmosphere. Chemical emissions can have a significant impact on operator comfort. Fujifilm has extremely high standards for operator safety. To meet these standards **Fujifilm supplies to customer an air filtration system** (minimum specifications listed below) capable of removing chemical emissions from the work place around the printer.

Air Filtration System Minimum Specifications	Metric (SI)	Imperial
Blower Capacity ( <b>air flow rate</b> )	85 m <sup>3</sup> /min	3000 CFM (ft <sup>3</sup> /min)
Particulate Filtration ( <b>smallest filtered particle</b> )	1 micron	0.00004 inches
Total Activated Carbon Filtration ( <b>by mass</b> )	32 kg	70 lbs
Air intake <b>height</b> (maximum, measured from floor)	<90 cm	36 inches



**Note:**

Emissions from UV inkjet printers are denser than air. Therefore, any air filtration system used in conjunction with the printer must have air intakes below the height of the print table.

**Important Note:**

Use of an ICA Duster 3000 or equivalent air purification system (APS) is recommended for all Acuity F Series printer installations. The APS should be placed close to the printer to maximise efficiency.

The ICA Duster 3000 APS is equipped with a non-detachable Power Supply Cord and cable mount connector. For full details please refer to FSIS Technical Services.

In some cases, the cable mount connector present on the APS Power Supply Cord will not be correct for the end installation. In this case, a suitable connector must be sourced locally and installed before using the Acuity F printer.

## Maintain a Clean Operating Environment

Fujifilm Acuity UV printers perform best when the environment is clean and regular maintenance is performed. When UV ink-based printers are positioned in the same room as solvent ink-based printers, we recommend that UV printers are kept away from the solvent printers. Also make sure the ventilation is adequate and the room is kept free of dust and debris.

### The Importance of a Clean Environment.

The Acuity F printer requires regular maintenance, but a clean environment reduces the amount needed. Maintenance is meant to control three types of contaminants:

- **Foreign bodies** typically take the form of dust and hairs that become stuck to the printheads and surrounding area. This type of contamination affects image quality due to nozzle-outs and drips.
- **Ink Contamination** comes from the buildup of ink mist. This contamination has the potential to create pools on the underside of the carriage and lead to drips.
- **Operationally adverse contaminants** are those that affect the normal operation of the printer such as cleaning the air bearing surfaces and emptying the spit tray.

Foreign body contamination can cause nozzle outs and lead to drips on the media. Keeping the area around the printer clean and covering media when not in use are critical to preventing contamination. A clean environment ensures better print quality and less contamination that leads to ink dripping and nozzle outs.

## Shock and Vibration

The Fujifilm Acuity F series printers function normally in a typical print shop environment. Excessive vibrations generated from heavy machinery such as shears or punches may affect print quality and are not considered part of an acceptable operating environment. It may be necessary to consult a third party to isolate the source of such vibrations.

Fujifilm recommends that the printer is installed on a solid, non-flexible and well-supported floor (a concrete floor is ideal) to minimize transmission of vibration and shock to the machine from other equipment. A poorly supported floor may transmit shock loads to the machine from nearby equipment. In some cases, it may be necessary to consult a third party to recommend building improvements to reduce the effects of shock and vibration.

## Storage

These specifications apply to all Fujifilm Acuity printers stored in their own crate.

Storage Temperature: 0°C to +35°C (32°F to +95°F)

Relative humidity: 10% to 90%

**Attention:**

The printer should not be stored longer than 1 month in an environment with a relative humidity greater than 70%.

## Customer Equipment Requirements

### Electrical

The customer is responsible for providing a properly rated power cord (refer to local electrical specifications) and a grounded wall outlet.

### GigaBit Network Interface

Both the printer and the host computer require an RJ-45 Ethernet cable to connect them to the customer's network. The printer's network interface is capable of GigaBit transfer speeds but will also communicate with 10/100 Base-T network. If the customer does not have a network, we recommend the purchase of a router that uses DHCP to assign IP addresses. The alternative is to use a cross-over cable and assign a static IP to the printer (this requires knowledge of network protocols).

### Network Security

An additional layer of security is provided when the host computer is connected to the local network through a router. The router provides a hardware firewall that prevents unwanted access when the customer's network is connected to the internet. Although computer viruses are not a major problem with the printer since it does not access the internet directly, the extra layer of security eliminates any residual risks. Ideally the host computer will have no Internet access. However, if you want access make sure there is a router with an activated firewall between the host computer and the Local Area network.

### Spectrophotometer for Color Management

Fujifilm recommends that you use a spectrophotometer to create ICC profiles, or to re-calibrate existing ones, with ColorGATE Productionserver. The X-Rite EyeOne UV Cut spectrophotometer is recommended, but any model verified by ColorGATE to work with your version of software is acceptable. (Note: A 20 foot USB extension cable makes the reading of color swatches easier when creating profiles for color management using the spectrophotometer).

### Host Computer

The Fujifilm Acuity F Series printers are recommended for use with ColorGATE Productionserver V8.1 and above. It is the customer's responsibility to procure and configure computer hardware which, at the minimum, meets the software's basic computational and data handling needs.

### Host Computer Requirements

ColorGATE Productionserver V8.10 (or higher) software is used to generate the print files that are downloaded to the Fujifilm Acuity Advance Select printers. Please refer to the ColorGATE website for the respective suggested hardware and operating system requirements for the most current versions of software.

Visit <http://www.colorgate.com/>

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## Operator Training

Maximum performance on the Fujifilm Acuity F Series printers requires a properly trained operator. Fujifilm trains the operator in the use of the Acuity F Series printer's hardware and provides a general orientation for using the software at installation. However, this is not a substitute for formal training.

Operators of the Acuity F Series printers should be fully versed in the operation of ColorGATE Productionserver V8.10, or higher. For any operator unfamiliar with its operation, training is required. On-site or off-site training courses are available; contact ColorGATE for more information:

Visit <http://colorgate.com> or contact your local Fujifilm representative for training support.

## Site Preparation Pre-Installation Environment Checklist

Requirement: (indicate compliance as Yes or No)	Y	N
<b>Shock and Vibration</b> <ul style="list-style-type: none"> <li>Keep isolated from shears, punch presses, and guillotines</li> </ul>		
<b>Cleanliness</b> <ul style="list-style-type: none"> <li>Area should be reasonably clear of dust and other airborne particles</li> </ul> <p>Avoid installing in areas shared by routing, sanding, trimming or cutting equipment</p>		
<b>Flooring</b> <ul style="list-style-type: none"> <li>Concrete floor is ideal: minimum requirement is a stiff, well-supported floor</li> </ul>		
<b>Floor Covering</b> <ul style="list-style-type: none"> <li>Vinyl tile OR floor sealed with paint or other floor coating materials</li> <li><b>Do not</b> install on carpet</li> </ul>		
<b>Ventilation</b> <ul style="list-style-type: none"> <li>see requirements on page 13</li> </ul>		
<b>Air Filtration System</b> <ul style="list-style-type: none"> <li>see requirements on page 13</li> </ul>		
<b>Space Required</b> <ul style="list-style-type: none"> <li>see operational space requirements on page 6</li> </ul>		
<b>Room Temperature</b> <ul style="list-style-type: none"> <li>No lower than: 18°C (64°F)</li> <li>No higher than: 30°C (86°F)</li> <li>Temperature Range: Maintained within a 4°C (39°F) band</li> </ul>		
<b>Humidity</b> <ul style="list-style-type: none"> <li>Relative humidity: 30% to 70% (Non-condensing)</li> </ul>		
<b>Altitude</b> <ul style="list-style-type: none"> <li>0 to 2000 meters (0 to 6560 feet) maximum</li> </ul>		
<b>Grounded Electrical Circuit</b> <ul style="list-style-type: none"> <li>Requires an insulated equipment grounding conductor running with the supply conductors</li> </ul>		
<b>Proximity to Solvent Printers</b> <ul style="list-style-type: none"> <li>We strongly recommend that UV ink-based printers be kept in a separate room from solvent printers.</li> </ul>		