VUTEk Q3r/Q5r Printer Specifications

Description: This document contains general specifications for VUTEk Q3r/Q5r printers. Use these specifications during the initial phase of printer logistics planning and for installation site preparation prior to shipment of the printer(s).

Affected Printers: EFI VUTEk Q5r-FC, EFI VUTEk Q3r-FC, EFI VUTEk Q5r, EFI VUTEk Q3r

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This document contains general specifications for VUTEk Q3r/Q5r printers. Use these specifications during the initial phase of printer logistics planning and for installation site preparation prior to shipment of the printer(s).

Prior to installation, read and understand the EFI Printer Safety Guide, available at: https://inkjet.support.efi.com/doc.php?doc=683

Revision History

A	07/21/2020	New Document	DR 6344
B	06/22/2021	Added Super Duty Winder Dimensions and Clearances and Jumbo Roll Handling System Dimensions and Clearances. Adjusted Q5r crated depth dimension.	DR 6670
C	07/11/2023	Changed voltage from 380 to 400 in section 3.5.2 Power Requirements – Rest of the World.	DR 7454
D	11/13/2023	Updated intro paragraph in 3.5 Power Supply.	DR 7576
E	11/14/2023	Updated 3.7 Water Chiller to a mix of glycol and distilled water. Updated dimensions in Table 1 and Table 2, as well as Figure 3 and Figure 4.	DR 7577 DR 7578

Contents

1.0 Printer Shipping Specifications

This document describes specifications for the VUTEk Q3r/Q5r printers. This includes overall dimensions, clearance requirements, weight specifications, and flooring material requirements, among others.

To accommodate media loading and unloading, opening of doors and hood, vacuum plate's external protrusions, and to provide enough access to the printer, take into consideration that you need space all around the printer.

Whenever the production area is mentioned in this document, it refers to the working area around the printer, to one meter (1 m) from the printer from any side, as shown in the relevant figures in this document.

- The uncrated dimensions refer to the freestanding unpacked printer without attachments such as the warning light and the workstation.
- The crated dimensions refer to the external dimensions of the shipping crate.
- The operating dimensions refer to the printer's main dimensions with the open hood.

NOTE: Use the uncrated dimensions to determine if the printer will fit through the facility entrance.

Table 1: Q3r Dimensions

	Width (left to right)	Depth (front to back)	Height
Crated	867 cm (341.3")	245 cm (96.45")	192 cm (75.5")
Uncrated (Fully Assembled)	684 cm (369.3")	152 cm (59.8")	238 cm (93.7")
With Operating Area	784 cm (308.6")	252 cm (99.2")	248 cm (97.6")

Table 2: Q5r Dimensions

	Width (left to right)	Depth (front to back)	Height
Crated	845 cm (332.67")	245 cm (96.45")	192 cm (75.5")
Uncrated (Fully Assembled)	723 cm (284.6")	152 cm (59.8")	238 cm (93.7")
With Operating Area	823 cm (324")	252 cm (99.2")	248 cm (97.6")

1.1 VUTEk Q3r/Q5r Height

The following figures show the height when the printer is operating and when it is uncrated.
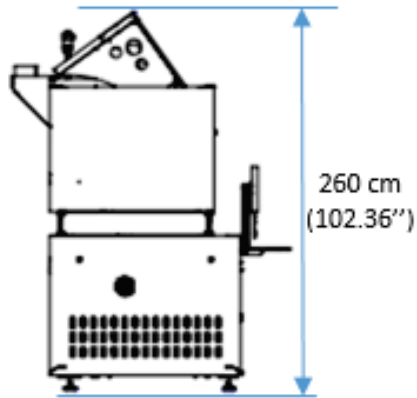

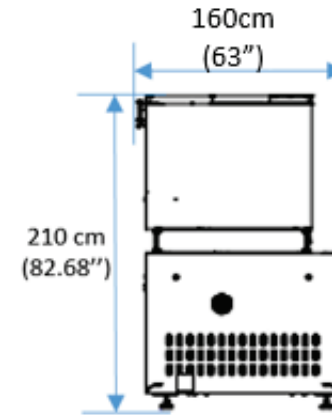**Figure 1: Printer Operating Position with Open Hood**

Figure 2: Printer Uncrated Position

1.2 VUTEK Q3r/Q5r Weights

The net and gross (crated) weights of the VUTEk Q3r/Q5r printers are listed below. The gross weight must be considered when unloading from the transport vehicle. The central point of balance is clearly marked on the outside of the shipping crate. It is important to note that the center of the crated printer is not the central point of balance.

Table 3: Weights

	Net Weight	Crated Weight
VUTEk Q3r	5,400 kg (11,905 lbs)	7,000 kg (15,432 lbs)
VUTEk Q5r	6,500 kg (14,330 lbs)	8,000 kg (17637 lbs)

2.0   Printer Options

VUTEk Qr3/Qr5 printers are available in the following combinations:
1) Motorized Air-Shaft.
2) Sheet Collector

2.1   Printer Feet Locations

*The **VUTEk Q3r/Q5r** printers rest on ten adjustable feet. Two feet at each end of the printer as well as the center ones (marked '**Support Foot**') are only for supporting the printer. The four other feet (marked '**Leveling Foot**') are used for leveling the printer.*
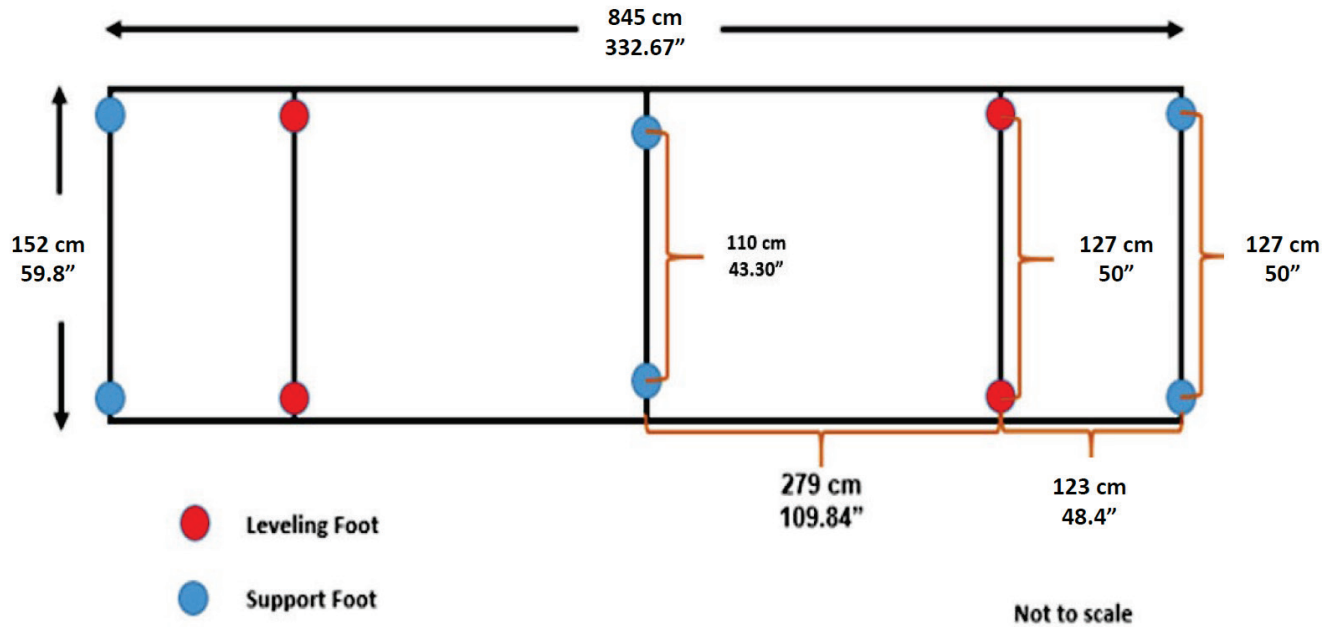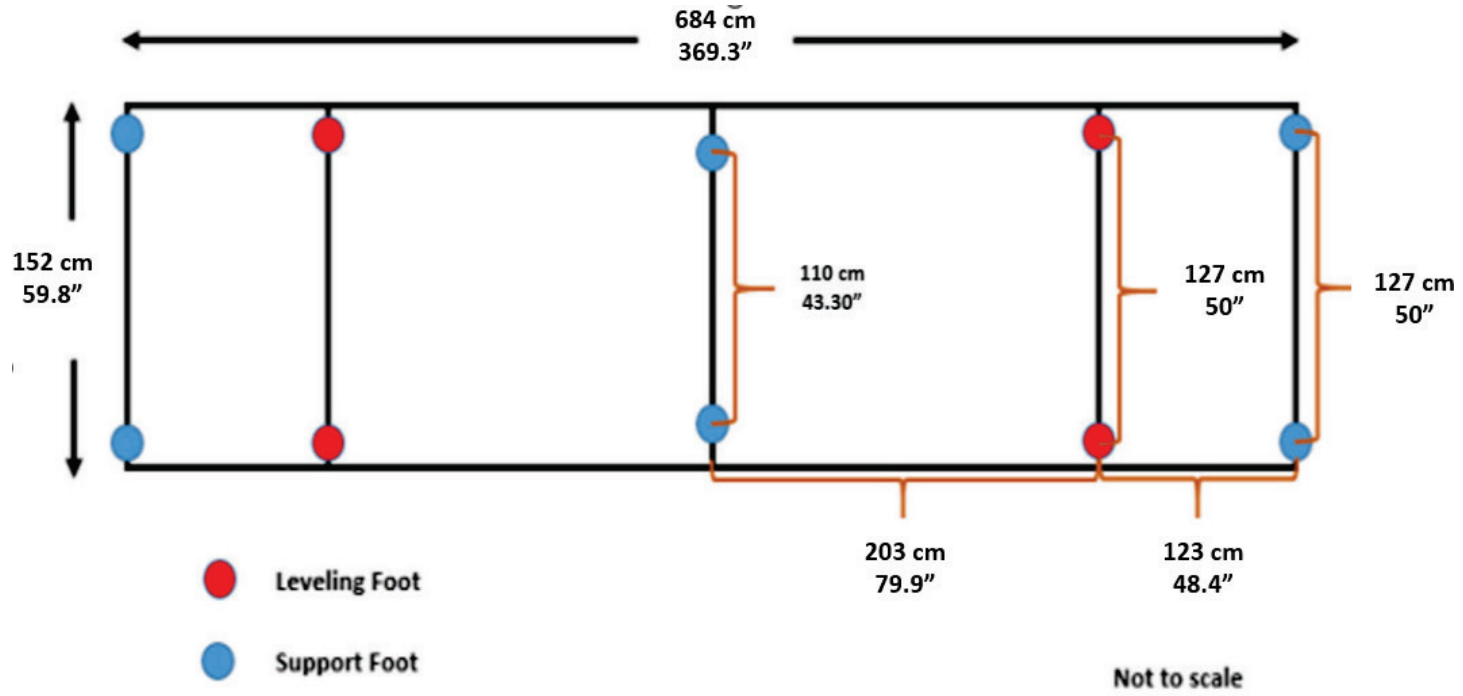

Figure 3: VUTEk Q5r Printer's Feet

Figure 4: VUTEk Q3r Printer's Feet

3.0   Installation Requirements

3.1   Print Room Environment

Keep the room where the printer is located free of dust and other particle contaminants. When installing an EFI printer in the same room with other kinds of printing equipment, the printer should be isolated by a partition.

Table 4: Environment Specifications

Parameter	Specifications
Ambient Room Temp.	20º C – 30º C (68º F – 86º F)
Relative Humidity - Optimal	50% to 80%
Relative Humidity - Standard	30% - 80%

Printing outside the above limits can cause damage to the printer and result in poor print quality.

Please see ink Safety Data Sheets for additional information.

3.2   Flooring Material

The flooring in the production area must be a concrete base, as well as dust-free and must prevent the hazardous accumulation of static electricity. Anti-static carpeting or tiles may be placed in the production area on top of the concrete floor prior to the printer's installation. The flooring must be designed to safely support the weight of the system. A structural engineer must be consulted before the machine is brought to the site. During installation, the printer will be precision leveled to ensure proper movement of the print heads and media.

NOTE: The floor surface in the production area must be concrete, smooth, level and free of holes or indentations.

3.3   External Connection Locations

The four external connectors (air, power, water, and ethernet) are located as follows:

- Air Supply – on the pneumatic panel at the lower front right side of the printer.
- Power Supply – lower back right side of the printer.
- Water (Water Chiller) – lower back left side of the printer.
- Ethernet – behind the electronics service cover at the left side of the printer.
  NOTE: As the PC workstation is located at the left front side of the printer, you should provide enough Ethernet cable (CAT 6 or higher) between the RIP station and the printer's PC.
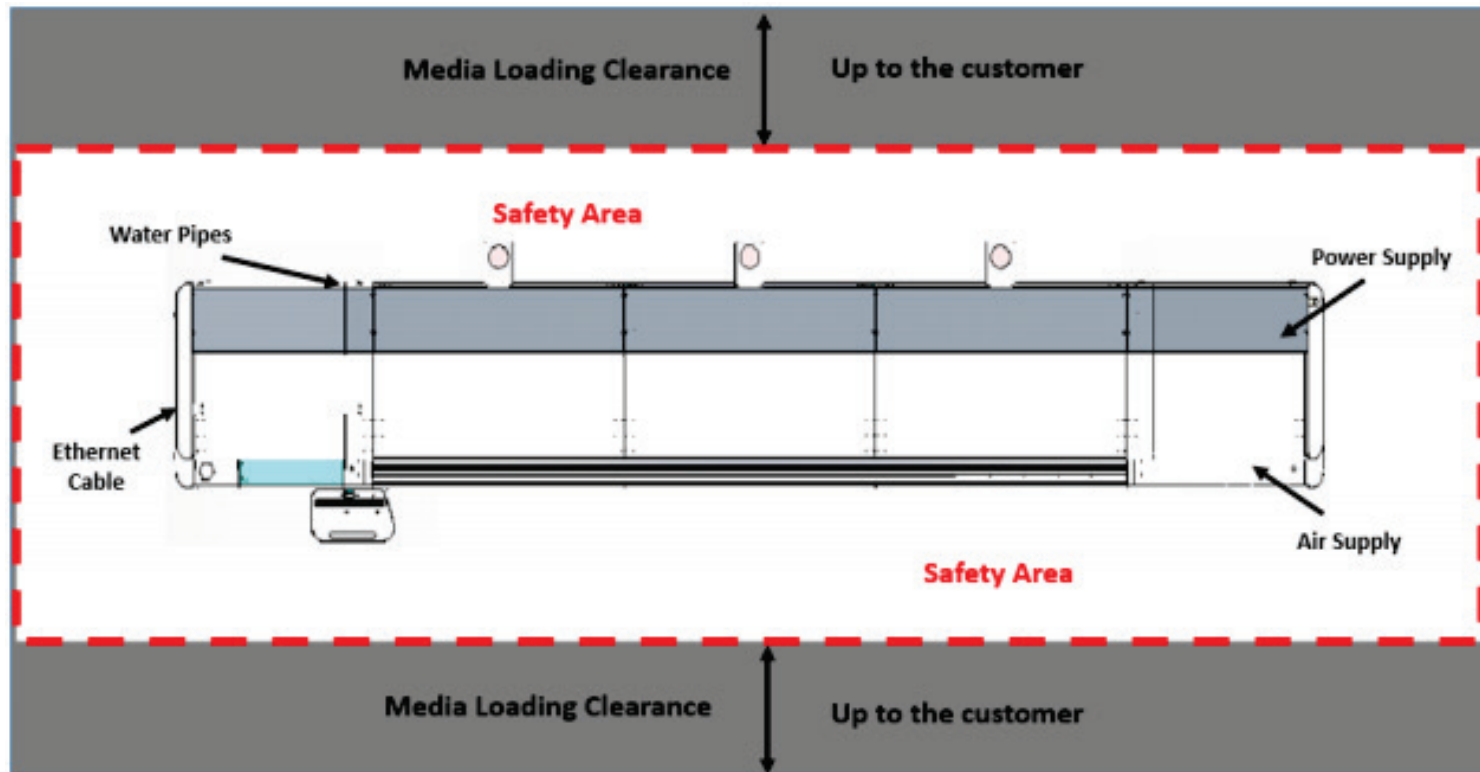

Figure 5

3.4   Air Supply

The air should be dust and moisture-free. A supplementary system should be used for this purpose. The air compressor and dryer are not supplied by the manufacturer.

The minimum requirement for the compressed air supply is 7 bar.

To assure moisture-free air supply to the printer, an air dryer must be installed and used in addition to the air compressor. An air dryer with the following specifications is required.

Parameter	Specifications
Minimum Air Flow	100 liter/min (4 CFM)
Max. Working Pressure	10 bar (145 psi)

NOTE: A 3-phase 32-amp plug is supplied, and it is the customer's responsibility to provide the required length of suitable cable.

3.5   Power Supply

Any electrical work carried out on the **VUTEk Q3r/Q5r printers** *must be carried out by a fully qualified electrician. The electrician must wire the customer-supplied cable to the facility's power supply and to the EFI-supplied plug. Power cables and facility breakers are not supplied with the printer. Power cables and facility breakers must be sized by a licensed electrician familiar with industrial equipment power requirements due to differences in site voltage, amperage, and kW, as well as local electrical codes. A stable electric power without sags/surges is required to protect the electronic components in the printer.*

The following outlines electrical requirements.

3.5.1   Power Requirements – United States (and Its Territories), Canada, and Mexico

Table 5: Electrical Specifications

Parameter	Specifications
Input Voltage	3-phase, 208 VAC between phases (±5%), 3 x 32 Amp + N* + GND** (WYE) **NOTE:** A real 3 phase voltage is required from the building. The input voltage rating must be 120 VAC between N and each phase, 3-phase 3 x 32 Amp, + N + GND, which corresponds to the above rating.
Hz ±1% Line Input Frequency	50/60 Hz, +/-1%
Power Consumption	**LED** 5.7 kW/hr – at maximum load.

* N = Neutral
** GND = Ground
The RCD (Residual Current Device) must be rated at 40 Amps (per phase), with a leakage current of I – 300 mA.
A suitable transformer should be used whenever these ratings cannot be achieved.

NOTE: A 3-phase, 32 amp plug is supplied; **the customer must provide the required length of suitable cable.**

3.5.2 Power Requirements – Rest of the World

Table 6: Electrical Specifications

Parameter	Specifications
Input Voltage	3-phase, 400 VAC between phases (±5%), 3 x 32 Amp + N* + GND** (WYE) **NOTE:** A real 3 phase voltage is required from the building. The input voltage rating must be 220 VAC between N and each phase, 3-phase 3 x 32 Amp, + N + GND, which corresponds to the above rating.
Hz ±1% Line Input Frequency	50/60 Hz, +/-1%
Power Consumption	**LED** 5.7 kW/hr – at maximum load.

* N = Neutral
** GND = Ground
The RCD (Residual Current Device) must be rated at 40 Amps (per phase), with a leakage current of I – 300 mA.
A suitable transformer should be used whenever these ratings cannot be achieved.

NOTE: A 3-phase, 32 amp plug is supplied; **the customer must provide the required length of suitable cable.**

3.6   Ventilation

During the normal printing process (using EFI-approved consumables – see also the MSDS), the printer releases harmful substances into the air. Local authority regulations may define or control the Permissible Exposure Limit (PEL)/Threshold Limit Value (TLV) of some of these harmful substances.

To completely fulfill the local mandatory requirements, we strongly recommend performing periodic monitoring for air quality near the printer, by a certified body or by continuously using appropriate certified monitoring equipment.
- Environmental conditions existing at a specific site are a result of many factors, only some of which depend on the printer.
- Printer-related parameters such as duty cycle, type of print, inks, and light intensity can adversely affect the air quality.

For an initial estimate of requirements from the site's HVAC system, it is possible to use the following:
- For a single printer using an LED UV system, generating two full air replacements per hour within the working space.

It is the responsibility of the site operator/owner to provide and install a suitable HVAC system and to regularly maintain it in full working order and effective, as per the manufacturer's instructions.

Wear an appropriate respirator when ventilation is inadequate.

3.6.1   Exhaust Fans

Ensure that the HVAC professional is provided the following information when sizing the ventilation system.

There are three exhaust fans installed on the printer. The airflow for each fan is approximately 275CFM, or 7.79 m³/minute.

3.6.2 Ventilation Dimensions

Provide these dimensions to the HVAC technician when locating ventilation for the three exhaust fans.
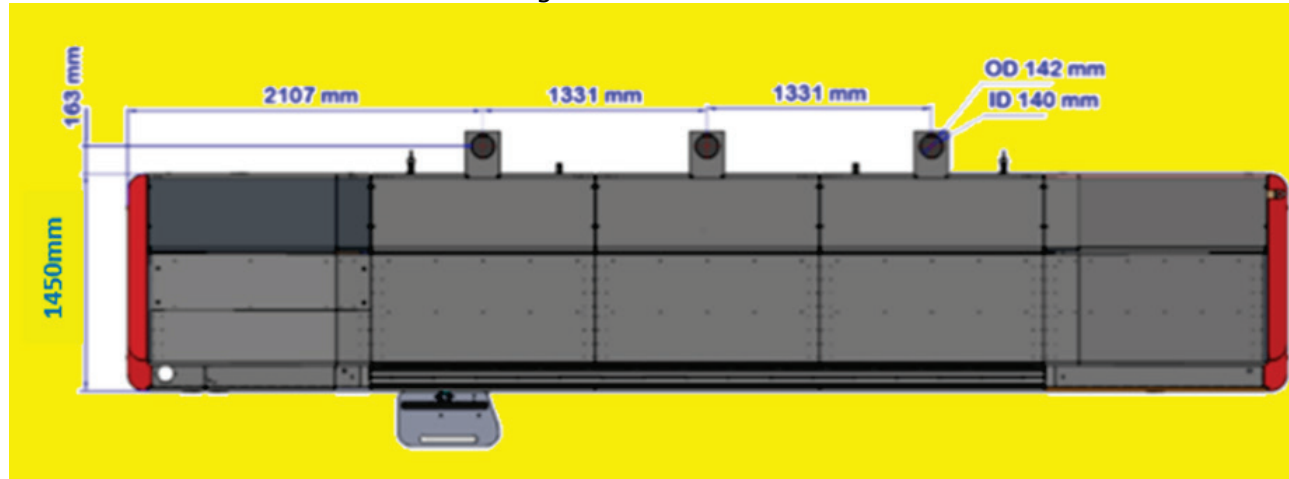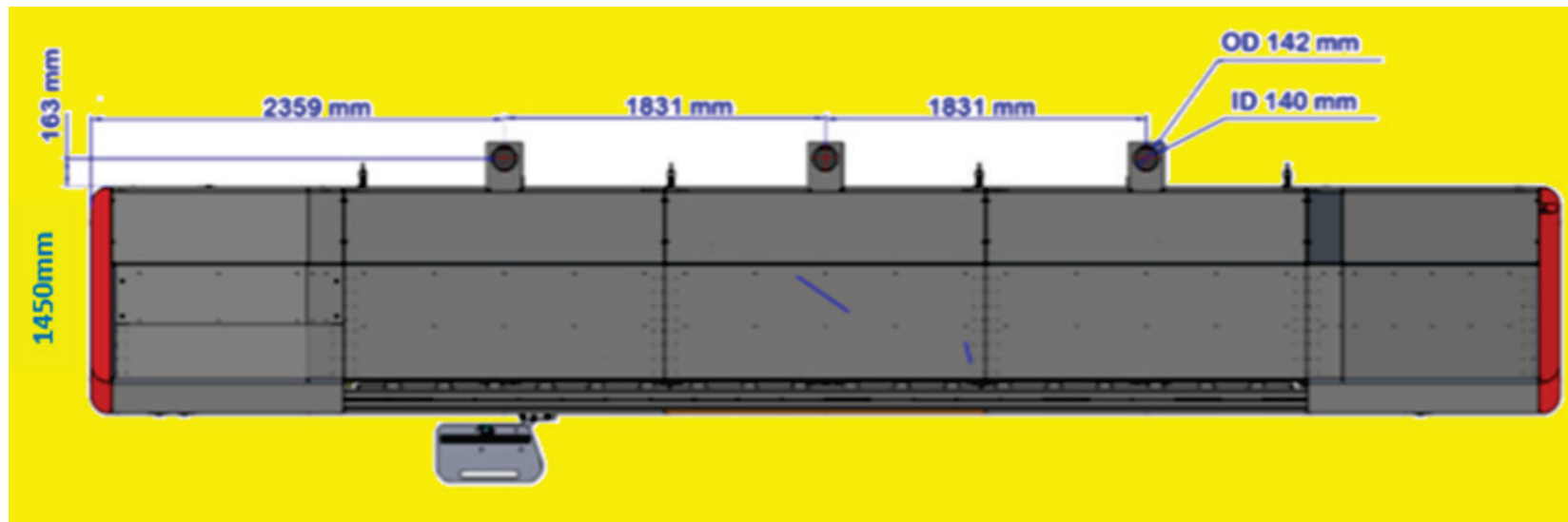

Figure 6: VUTEk Q3r Ventilation Dimensions

Figure 7: VUTEk Q5r Ventilation Dimensions

3.7   Water Chiller

Use a mix of glycol and distilled water. An independent system should be used for this purpose. A chiller is required and is included with the printer. The chiller will be plugged directly into the printer for electrical power. The requirements for the water chiller are as follows:

Table 7: Environment Specifications

Parameter	Minimum	Maximum
Cooling Capacity	3.6 kw	5 kw
Pump Capacity	5 l/min	60 l/min
Pump Pressure	3 Bar	5 Bar
Water Temperature Range	+10° C	+25° C

3.7.1   Chiller Location

The chiller should not be placed more than 10 m from the printer.

3.7.2   Water Pipe Dimensions

The specification of the water pipe is as follows: 10 x 7.5 mm.

4.0   Site Plan and Clearances

4.1   VUTEk Q3r Standalone Dimensions and Clearances
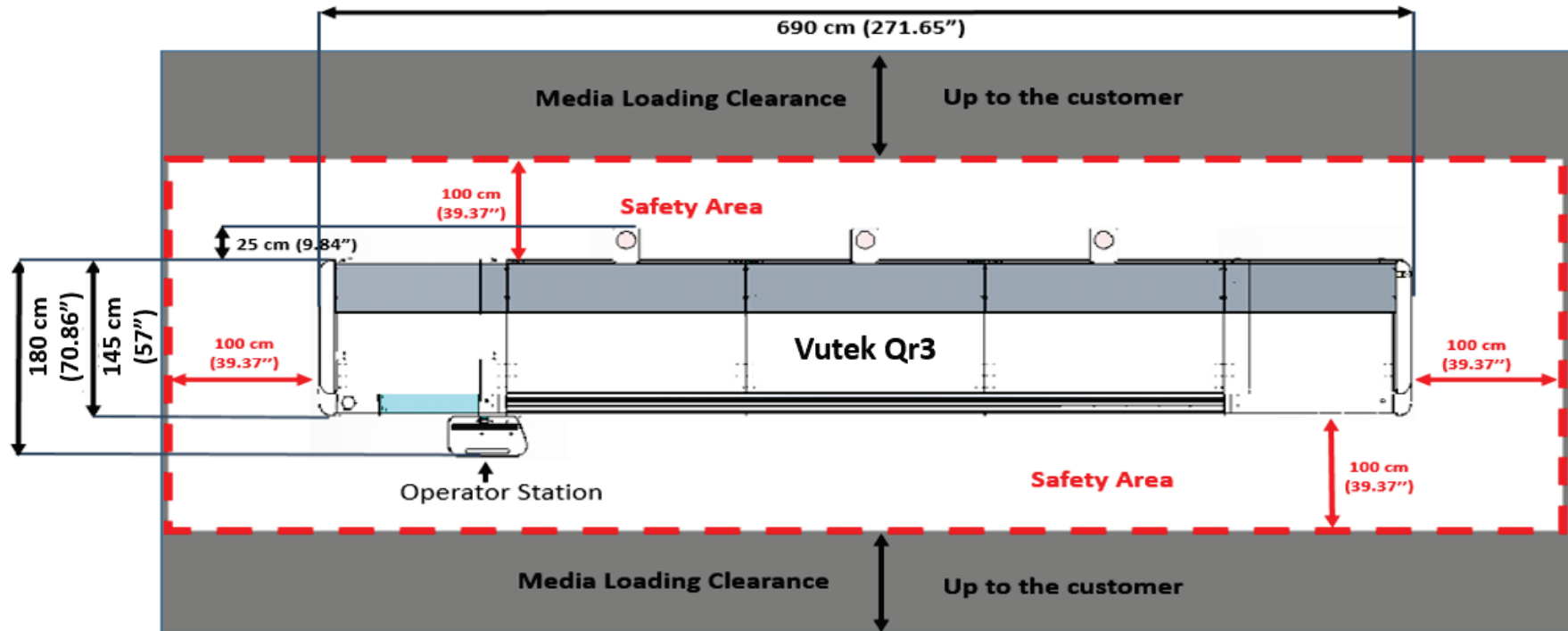
Figure 8

4.2   VUTEk Q5r Standalone Dimensions and Clearances

Figure 9

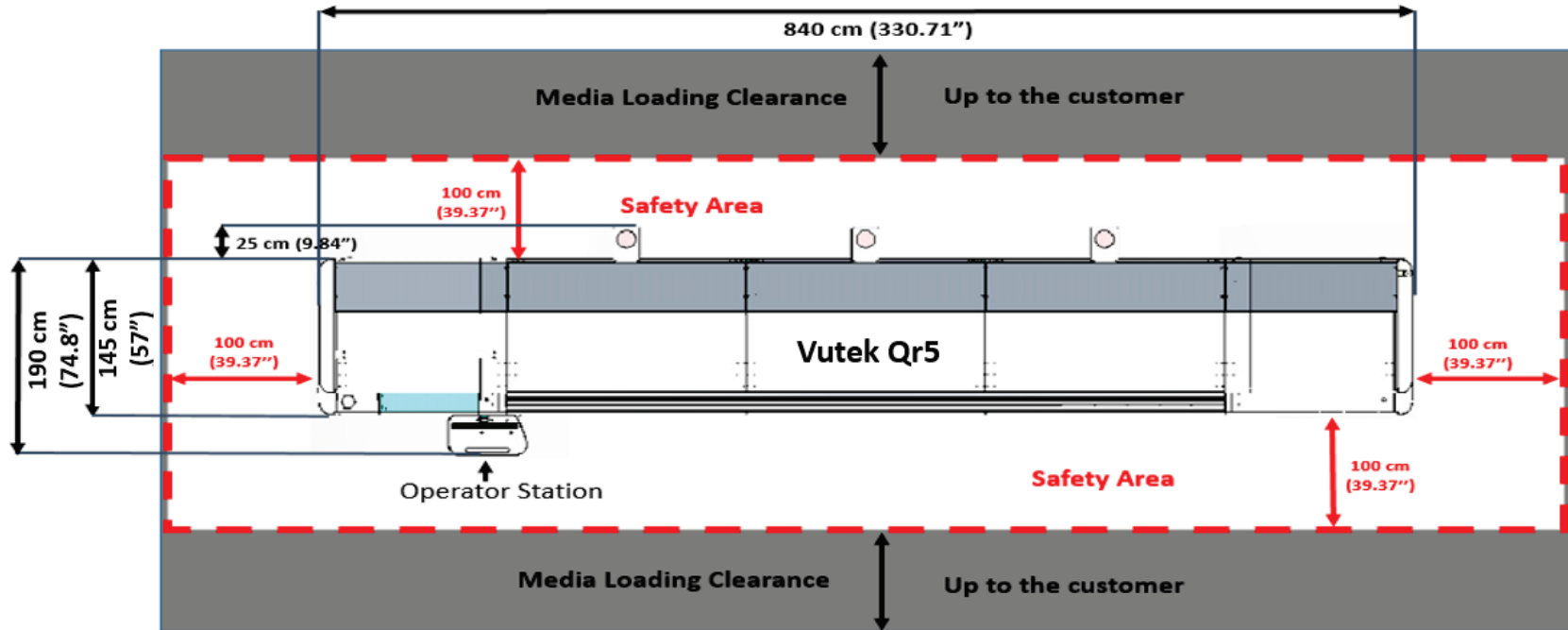## 4.3   Sheet Collector Dimensions and Clearances

The sheet collector collects the printed media that has already passed the in-line finishing stage. As an option, two sheet collectors can be attached to the VUTEk Q3r printer and three to the VUTEk Q5r Printer.
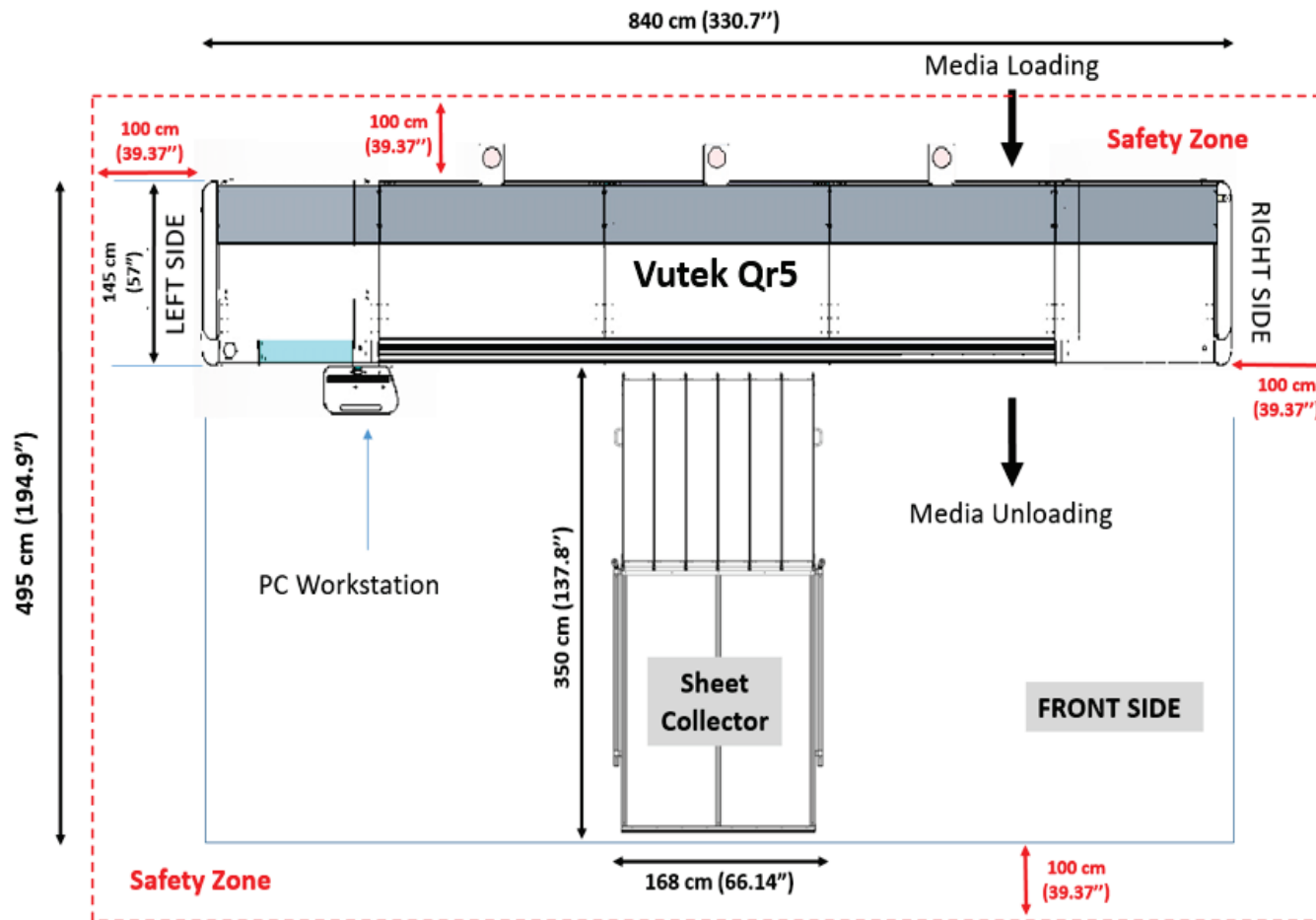

Figure 10: VUTEk Q5r Printer with Sheet Collector (not to scale)
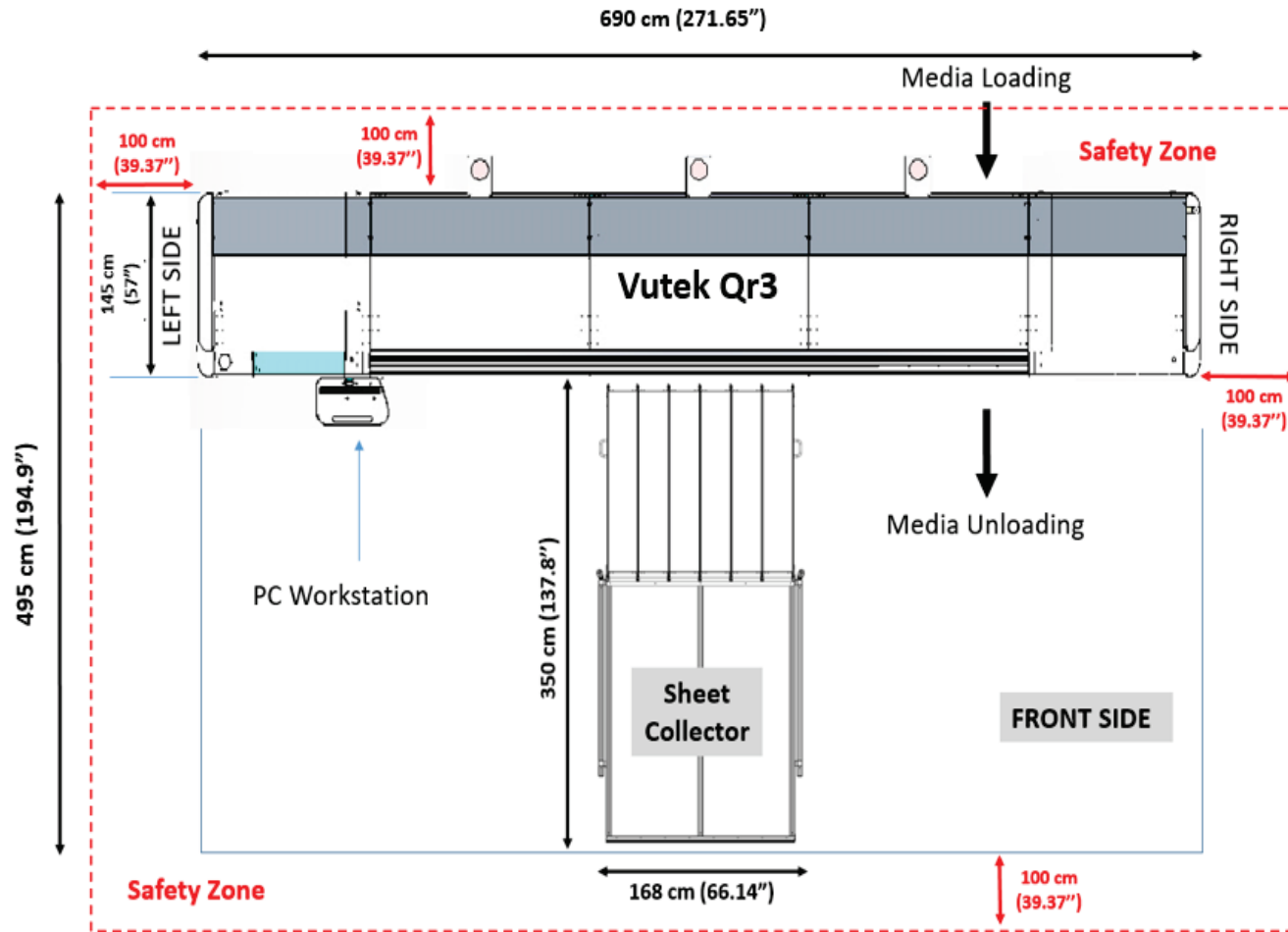
Figure 11: VUTEk Q3r Printer with Sheet Collector (not to scale)

4.4 Winder/Unwinder Motorized Air-Shaft Dimensions and Clearances

The air shaft inflatable collar applies variable tension to the media on the printer's media rolls.
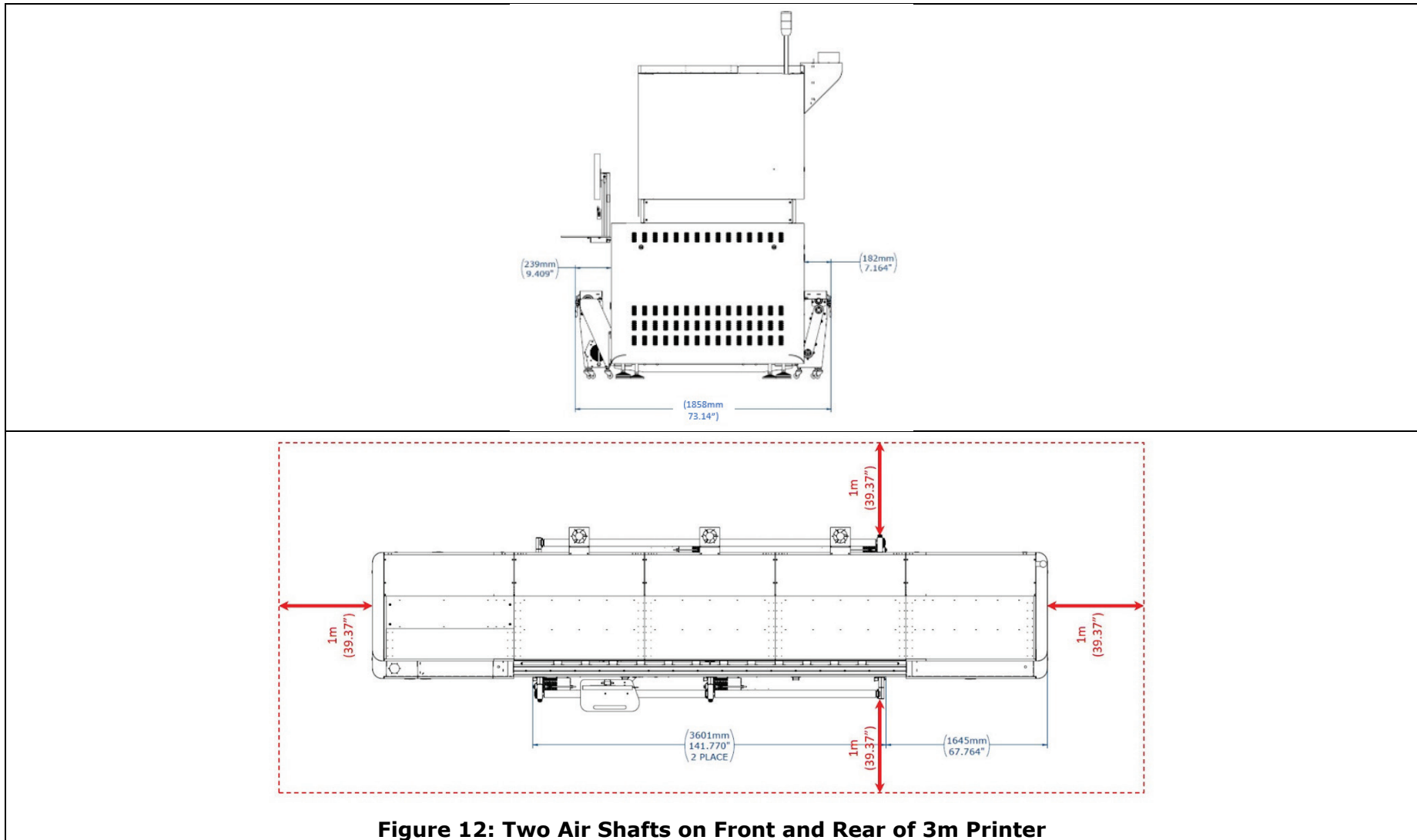

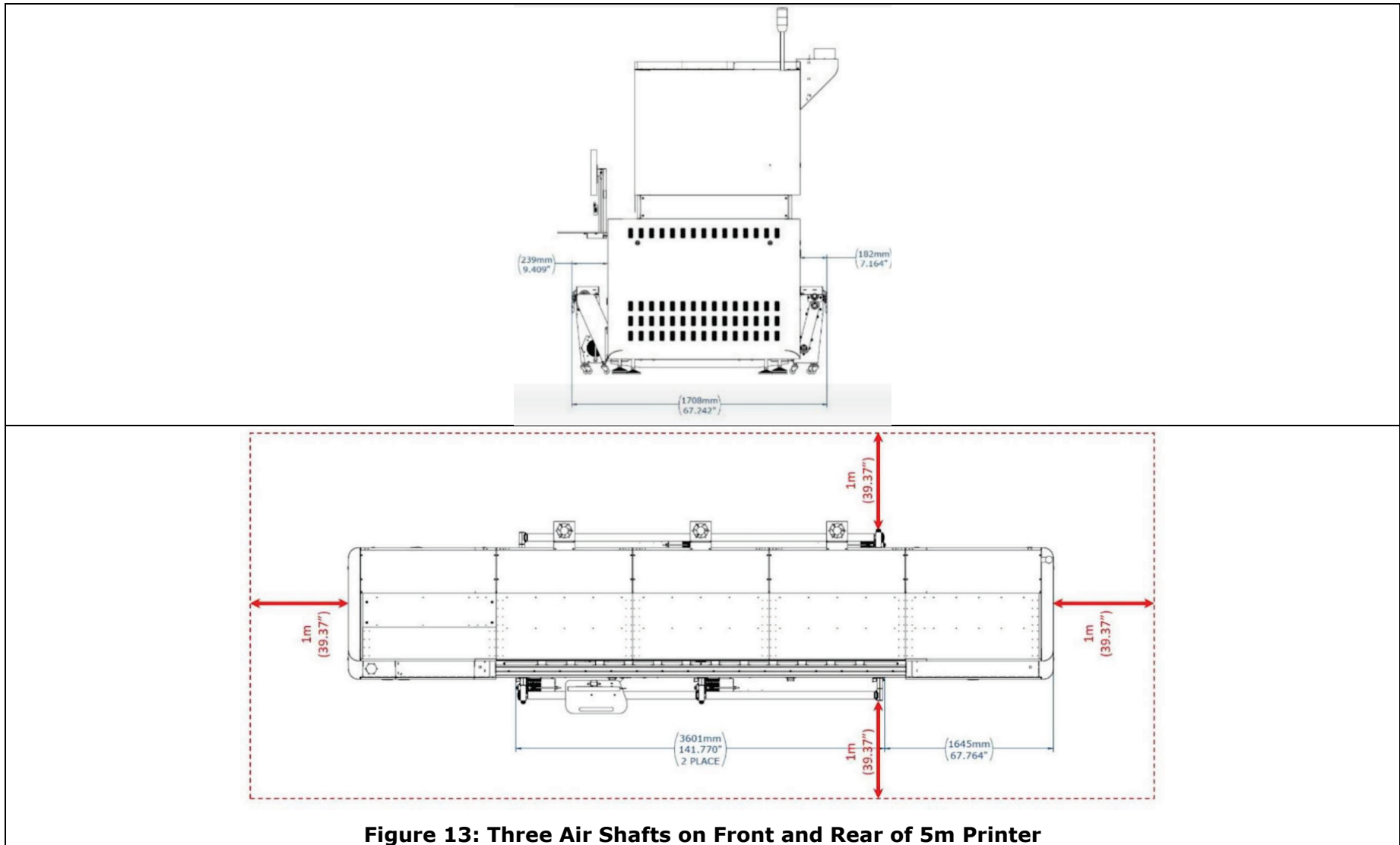**Figure 12: Two Air Shafts on Front and Rear of 3m Printer**

Figure 13: Three Air Shafts on Front and Rear of 5m Printer

NOTE: Enough room must be left to enable the system to be easily maneuvered in all directions.
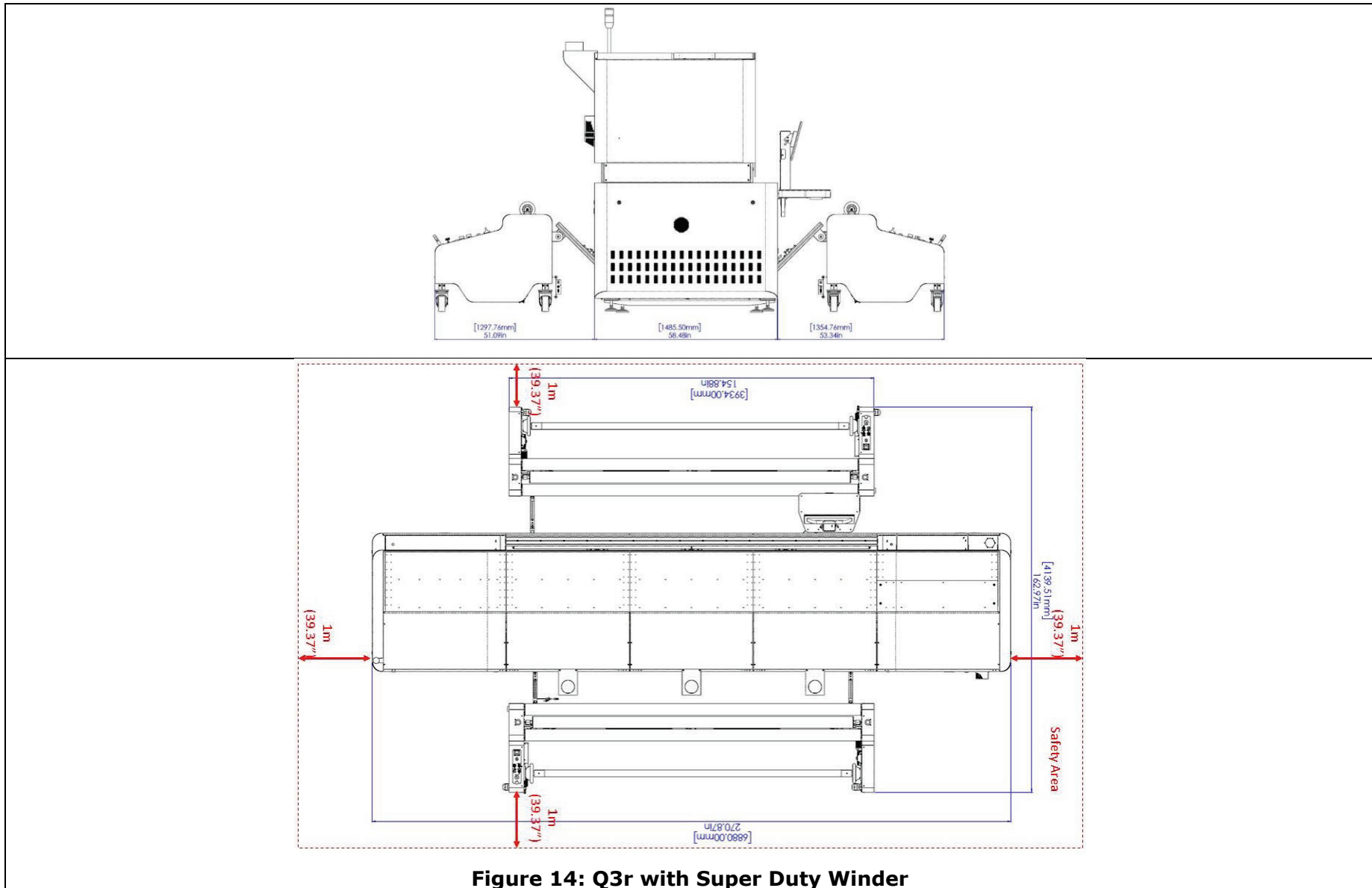
4.5   Super Duty Winder Dimensions and Clearances
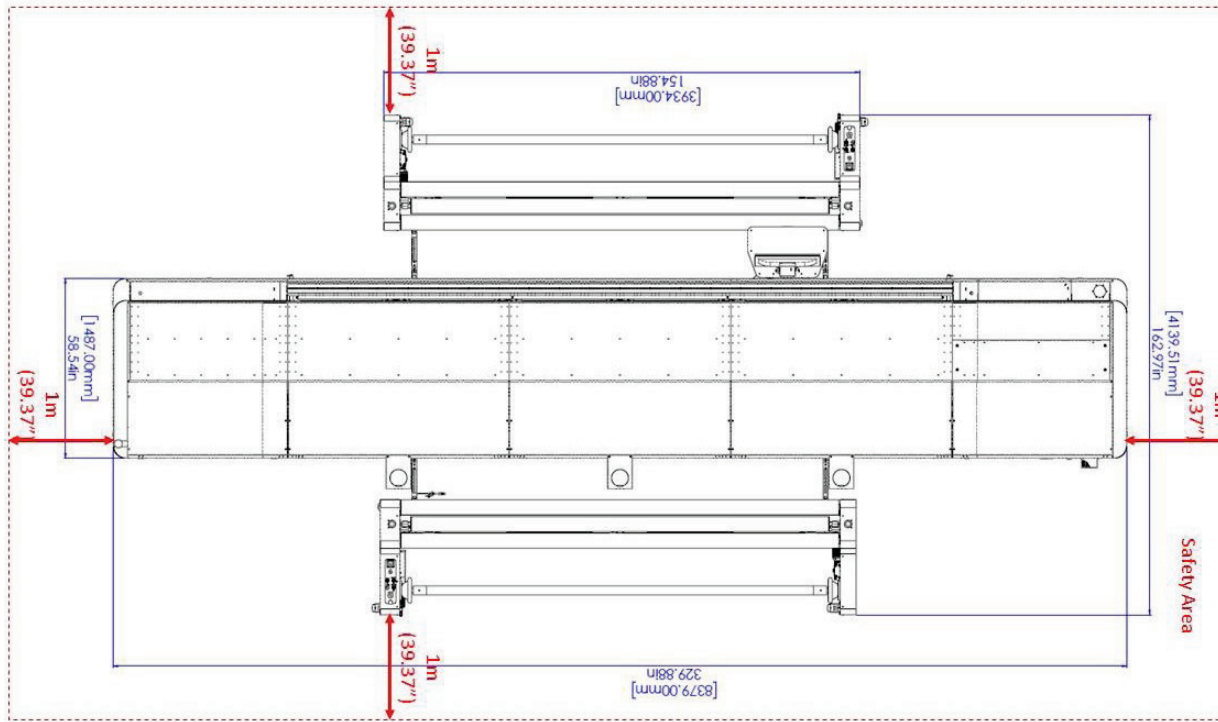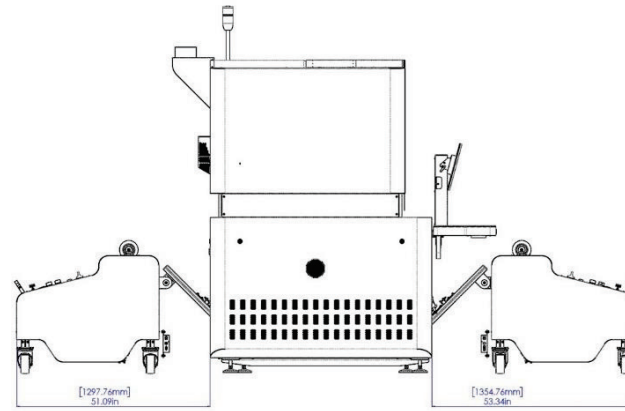

Figure 14: Q3r with Super Duty Winder

Figure 15: Q5r with Super Duty Winder

4.6   Jumbo Roll Handling System Dimensions and Clearances

The jumbo roll handling system is fully integrated for working with large and heavy media rolls of up to 750 kg (1,653 lbs). The system comprises a feeder and collector, each equipped with a dancer and external motor. It can be supplied for either the 5m or 3m printer.

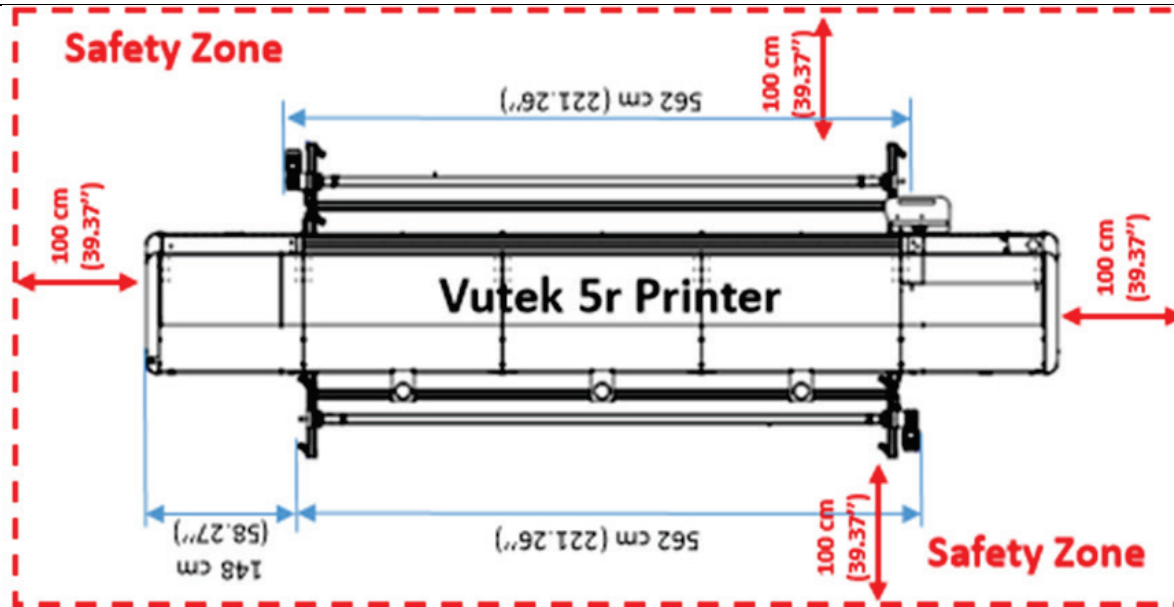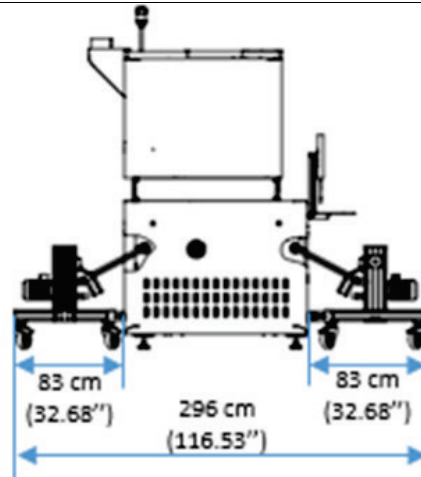**Figure 16: Jumbo Roll Feeder**

Figure 17: Jumbo Roll Collector

Figure 18: Jumbo Roll Handling System for the 5m Printer Q5r

83 cm (32.68") 296 cm (116.53") 83 cm (32.68")

Safety Zone

412 cm (162.2")

100 cm (39.37")

100 cm (39.37")

Vutek 3r Printer

100 cm (39.37")

148 cm (58.27")

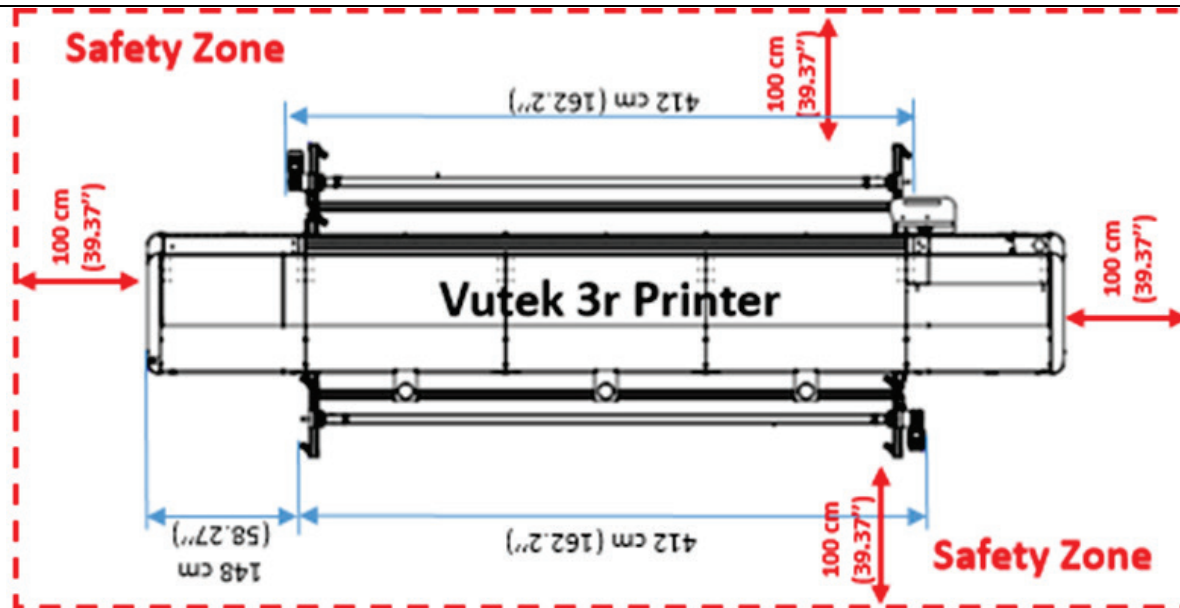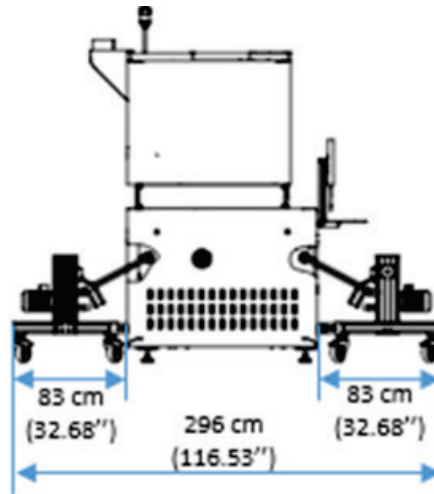412 cm (162.2")

100 cm (39.37")

Safety Zone

Figure 19: Jumbo Roll Handling System for the 3m Printer Q3r

NOTE: Enough room must be left to enable the system to be easily maneuvered in all directions.

5.0   Recommended Extra Equipment & Requirements

We recommend that you install your own Uninterrupted Power Supply (UPS) that is suitable for the printer's power consumption. This will enable you to save your current work in case of a spike in the electricity supply or a power cut.

5.1   Network Requirements

When completing the Site Preparation Checklist for your printer, identify the type of network connection you will be using (IP address or Automatic DNS). If applicable, you should enter the IP address on the checklist. Please note that we highly recommend your network manager be present during the installation, as you are responsible for all network connections.

5.2   Ethernet

The required ethernet cable between the RIP station and the printer must be of CAT 6 or higher.

5.3   ProServer SE (for the Fiery RIP Station)

The Fiery RIP station can be ordered in the two configurations, as shown in the following table.

Fiery proServer SE	P/N 3000008212
Fiery XF License Only (to be selected only if the customer already has a proServer or if a proServer is not certified for shipment to the customer's country of country).	P/N 3000006837