

EFI Vutek r Series Site Specifications

Description: Specifications should be used by customers and Field Service Engineers during initial phases of printer logistics planning. Printer Specifications include electrical power and floor space requirements. The information in this document is subject to change. This document serves as a guide to the site preparation for the EFI VUTEk 3r/3r+/5r/5r+ printers. You should read it very carefully. Its purpose is to enable you to carry out a site survey in order to have an idea of what requirements have to be met before the printer is delivered and installed.

Affected Printers: EFI VUTEk 5r & 5r+, EFI VUTEk 3r & 3r+, EFI VUTEk D5r, EFI VUTEk D3r

VUTEk r Series Printer Specifications

This document contains general specifications for VUTEk r Series 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

Rev	Date	Remarks	
A	30-11-16	New Document	
B	05-02-17	New Specs	
E	08/29/17	Updates	DR 4537
F	12/21/2017	Added Ventilation overview; updated footer with correct version; removed TOC and replaced; added sheet collector; removed ARC Lamp UV printer information; updated Power Consumption from 5 kW/Hr to 5.7 kW/hr; Updated Input Line Voltage from 400 VAC to 380 VAC; changed Minimum Pressure from 6 Bar to 7 Bar; changed Minimum Air Flow from 100 L/min to 400 L/min and added Imperial value (14 CFM).	DR 4718
G	02/15/18	Replaced all of section 18 Changed item in Chiller spec to indicate that chiller is provided with printer. Changed minimum printer air flow to 100 liter/min (4 CFM) on pg. 23.	DR 4892
H	03/26/2018	Updated Exhaust Fans airflow values. New value is m ³ /minute (not per second). Chiller is provided with printer; the chiller plugs into the printer for electrical power. Changed recommendation for 5m printers to use Two Forklifts. Corrected and updated Table of Contents and several headings.	
I	05/07/2018	Reordered sections	DR 4992
J	05/17/2018	Split Power Requirements into North America and Rest of World.	
K	05/22/2018	Clarified serial number cut ins and clarified North American countries affected. Specification for power requirements in United States and its territories, Canada and Mexico are for serial numbers of printers ending in xxx0418 and newer.	
L	01/02/2019	Remove images for forklift on 5m printers. Added "+" models.	
M	01/31/2019	Updated 2.0 Printer Options section.	
N	03/26/2019	On page 10, corrected voltage rating to be 220 VAC between N and phase, not 230.	DR 5638

O	08/26/2019	On page 11, updated the 4.1 Print Room Environment spec. Removed site preparation checklist.	DR 5919 DR 5922
P	09/04/2019	Added sections for Air Shaft and Roll & Tape.	DR 5929
Q	01/10/2020	Added D3r and D5r	DR 6101
R	02/05/2020	Updated 4.6.1 Exhaust Fans to separately define D3r/D5r.	DR 6158
S	03/26/2020	Updated 6.1.1 Exhaust Fans to definition now common to all printer types. Small proofreading edits.	DR 6242
T	07/16/2020	Updated document style.	DR 6326
U	03/25/2022	Added 4.4.1 Compressed Air Tubing	DR 6532
V	09/15/2022	Changed the airflow to 110 liter/min. in 4.4 Air Supply	DR 7093
W	07/11/2023	Changed voltage from 380 to 400 in section 4.5.2 Power Requirements – Rest of the World.	DR 7453
X	11/13/2023	Updated intro paragraph in 4.5 Power Supply	DR 7576

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1.0 Printer Shipping Specifications

This document describes specifications for the VUTEk r Series 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: 3r+/D3r Dimensions

	Width (left to right)	Depth (front to back)	Height
Crated	727 cm (286.22")	200 cm (78.74")	250 cm (98.4")
Uncrated (Fully Assembled)	890 cm (350.4")	330 cm (129.92")	260 cm (102.36")
Uncrated (Unassembled)	690 cm (271.65")	145 cm (57.1")	210 cm (82.68")

Table 2: 5r+/D5r Dimensions

	Width (left to right)	Depth (front to back)	Height
Crated	1068 cm (420.47")	200 cm (78.74")	250 cm (98.42")
Uncrated (Fully Assembled)	1040 cm (409.5")	330 cm (129.92")	260 cm (102.36")
Uncrated (Unassembled)	840 cm (330.71")	145 cm (57.1")	210 cm (82.68")

1.1 VUTEK r Series Height

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

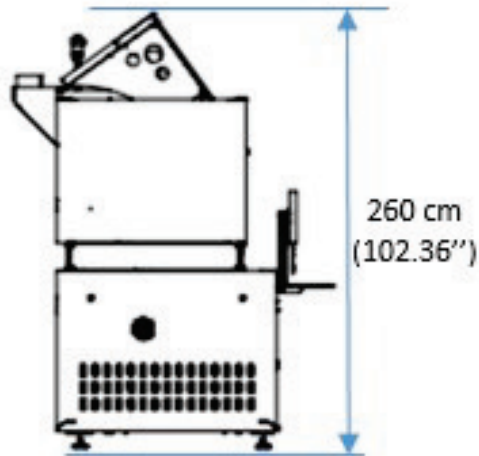


Figure 1: Printer Operating Position with Open Hood

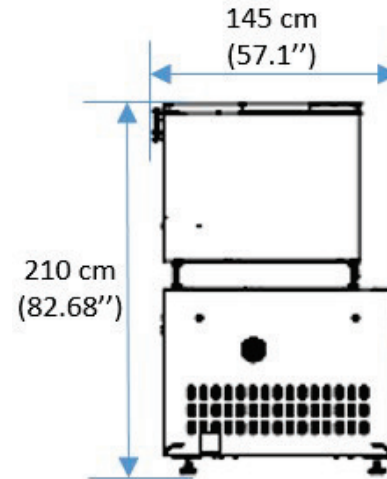


Figure 2: Printer Uncrated Position

1.2 VUTEK r Series Weights

The net and gross (crated) weights of the VUTEK r Series 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 3r+/D3r	4,400 kg (9,700 lbs.)	5,900 kg (13,007 lbs.)
VUTEk 5r+/D5r	5,500 kg (12,125 lbs.)	7,000 kg (15,432 lbs.)

2.0 Printer Options

VUTEk 3r/3r+/5r/5r+ printers are available in the following combinations:

- VUTEk 3/5 m
- VUTEk 3/5 m with the FLATBED plus TABLES
- VUTEk 3/5 m with 4' x 8' VACUUM PLATE
- VUTEk 3/5 m with 5' x 10' VACUUM PLATE
- VUTEk 3/5 m with 3 m x 2 m VACUUM PLATE
- VUTEk 3/5 m with Jumbo Roll HANDLING SYSTEM

VUTEk 3r+/5r+ printers include all the options above, as well as the following combinations:

- VUTEk 3/5 m Air core winders,
- VUTEk 3/5 m Roll to Tape Converter, and
- VUTEk 3 m Super Duty Winder

VUTEk D3r/D5r printers offer the following options:

- VUTEk D3r/D5r with Sheet Collector
- VUTEk D3r/D5r with Jumbo Roll Handling System

3.0 Printer Overview

The images below show overviews of the printer.

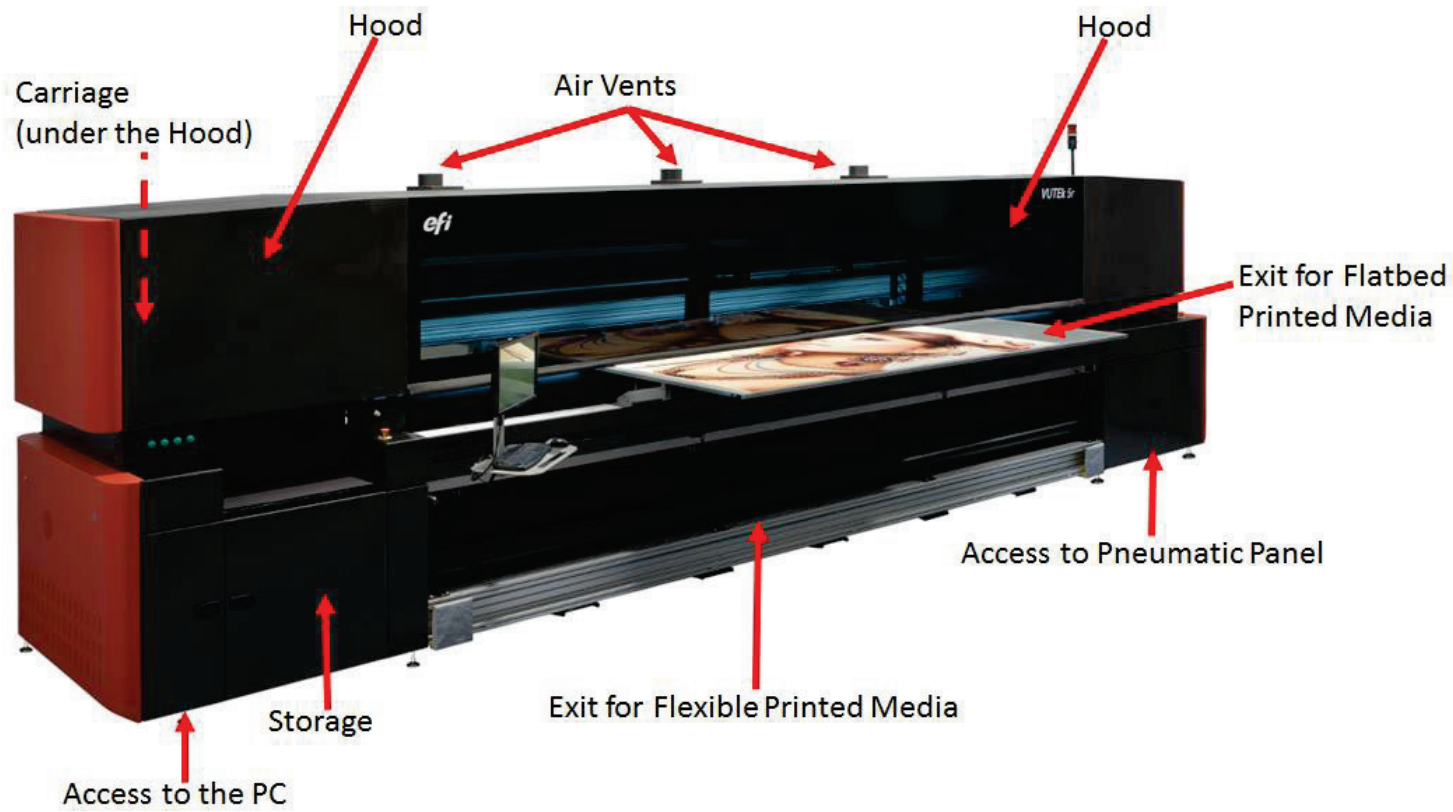


Figure 3: Front of Printer

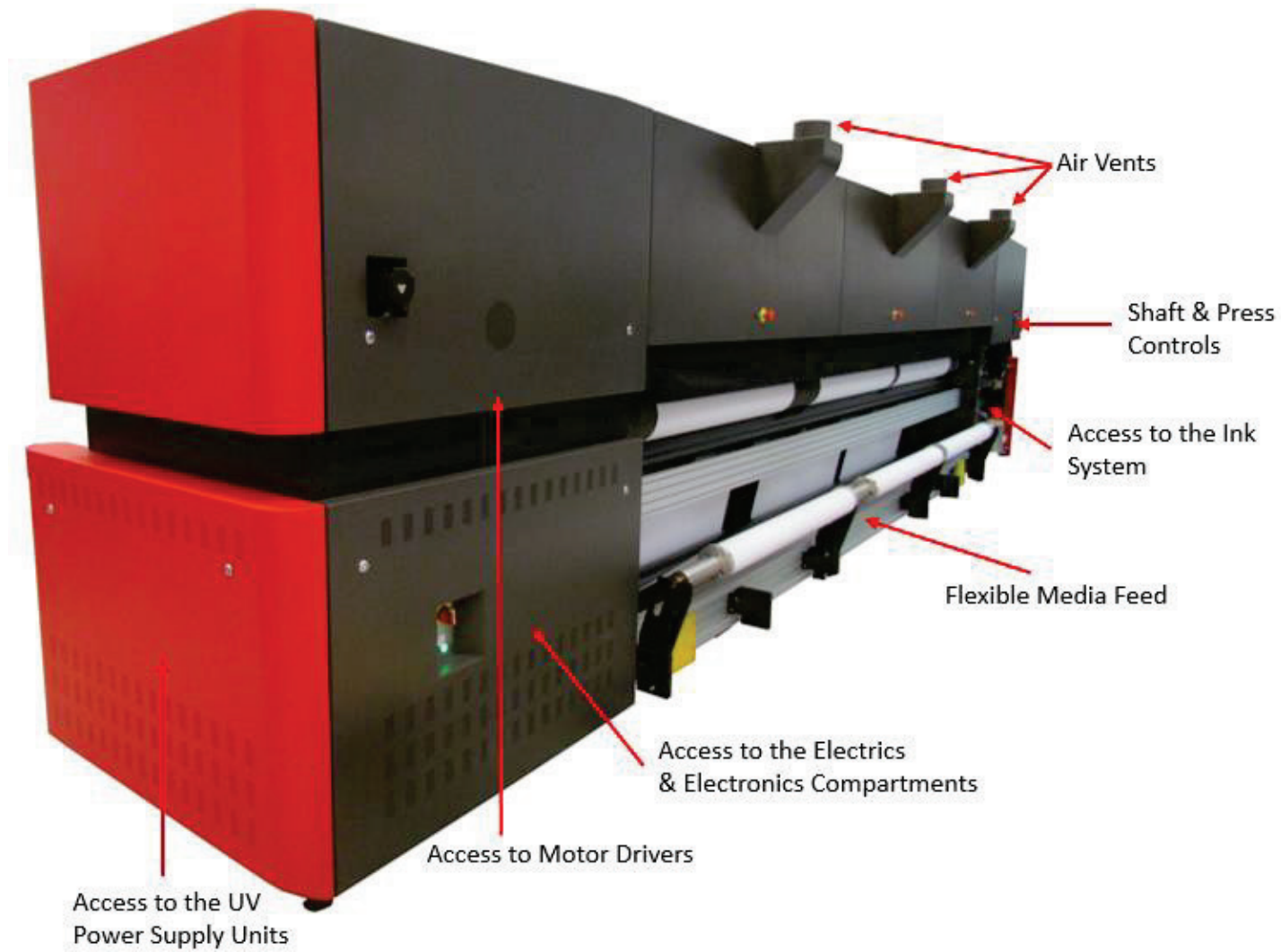
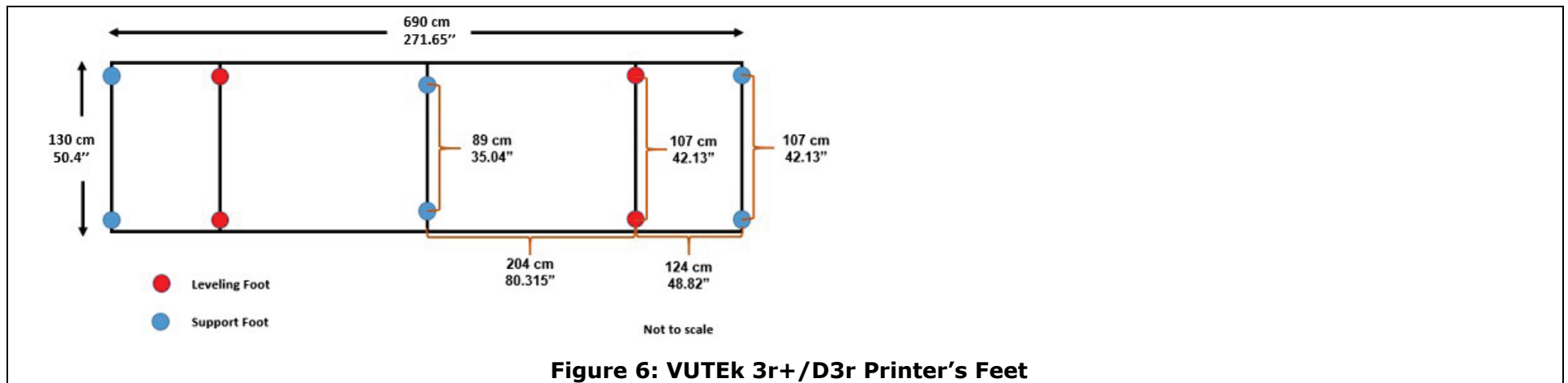
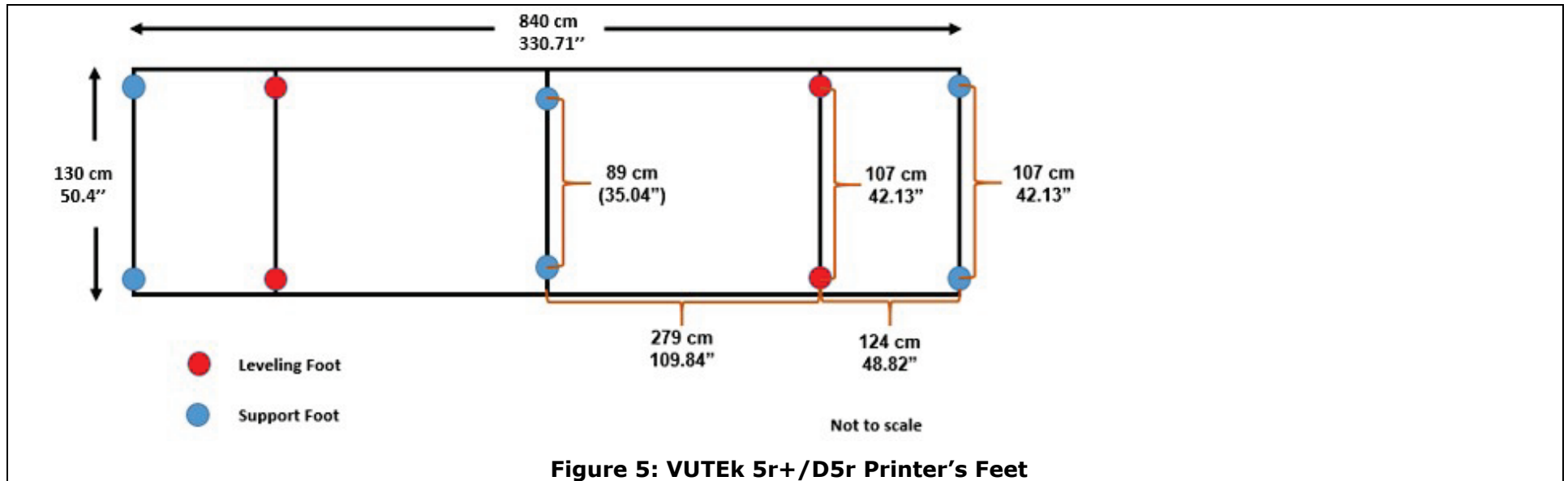


Figure 4: Rear of Printer

3.1 Printer Feet Locations

The **VUTEk r Series** 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.



4.0 Installation Requirements

4.1 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.	20° C – 29° C (68° F – 84° 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.

4.2 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.

4.3 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.

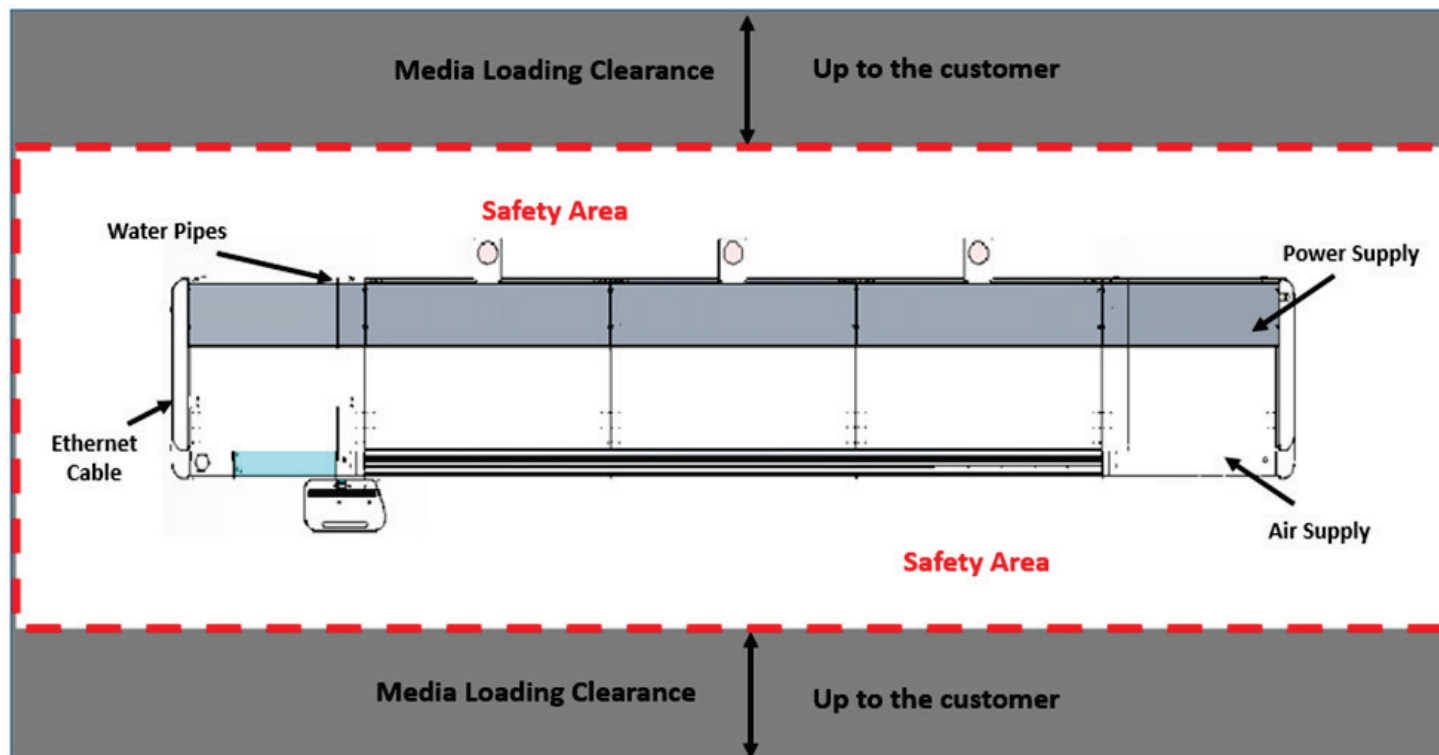


Figure 7

4.4 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	110 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.

4.4.1 Compressed Air Tubing

- External Diameter: 8mm
- Internal Diameter: 6mm

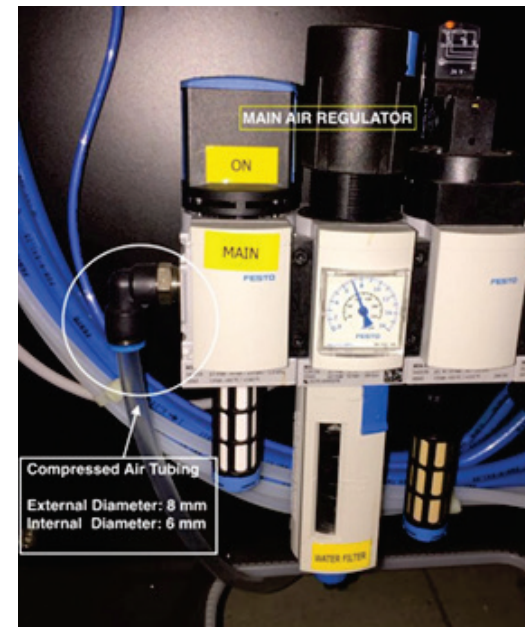


Figure 8: Compressed Air Tubing

4.5 Power Supply

Any electrical work carried out on the **VUTEk r Series 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.

The following outlines electrical requirements.

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

Table 5: Electrical Specifications

Parameter	Specifications
Input Voltage	3-phase, 208 VAC between phases ($\pm 5\%$), 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
Hz $\pm 1\%$ Line Input Frequency	50/60 Hz, $\pm 1\%$
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.

Important! Specification for power requirements in United States and its territories, Canada and Mexico are for serial numbers of printers ending in xxx0418 and newer.

4.5.2 Power Requirements – Rest of the World

Table 6: Electrical Specifications

Parameter	Specifications
Input Voltage	3-phase, 400 VAC between phases ($\pm 5\%$), 3 x 32 Amp + N* + GND** (WYE) <p style="color: red; text-align: center;">NOTE: A real 3 phase voltage is required from the building.</p> <p style="color: red; text-align: center;">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.</p>
Hz $\pm 1\%$ Line Input Frequency	50/60 Hz, $\pm 1\%$
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.

4.6 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.

4.6.1 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.

4.6.2 Ventilation Dimensions

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

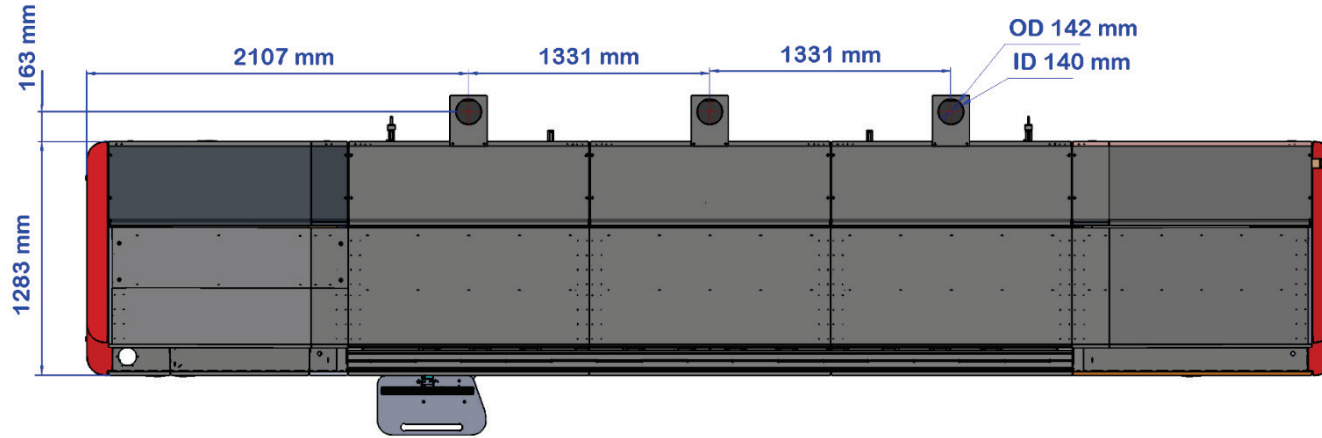


Figure 9: VUTEk 3r+/D3r Ventilation Dimensions

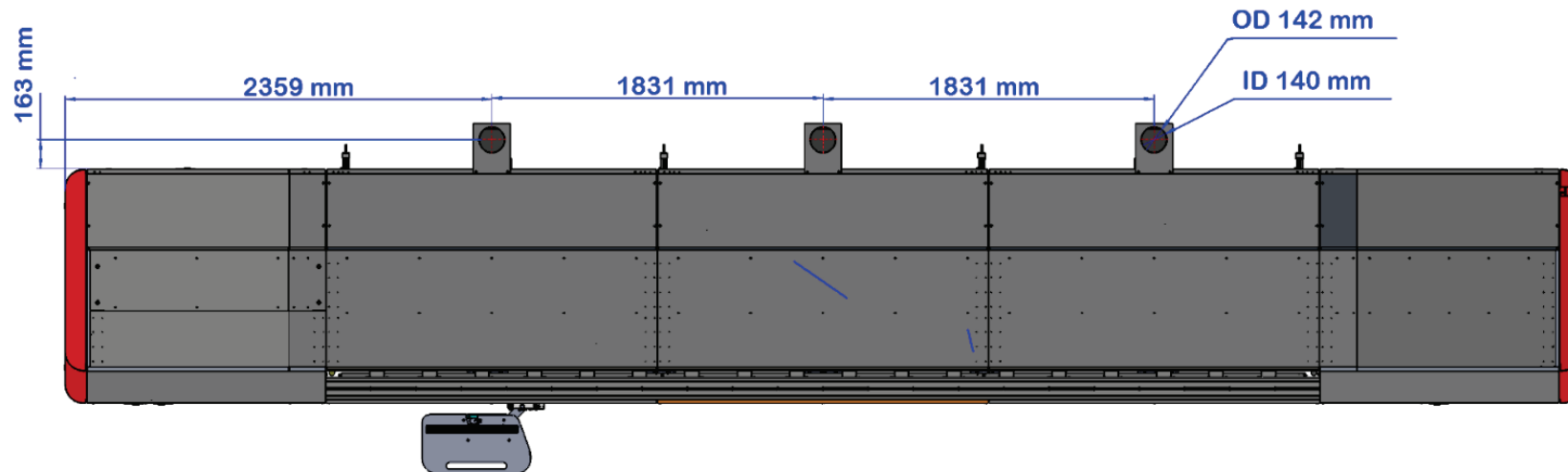


Figure 10: VUTEk 5r+/D5r Ventilation Dimensions

4.7 Water Chiller

Use 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

NOTE: The distilled water must be 100% pure, without any additives.

4.7.1 Chiller Location

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

4.7.2 Water Pipe Dimensions

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

5.0 Site Plan and Clearances

5.1 VUTEK 3r+/D3r Standalone Dimensions and Clearances

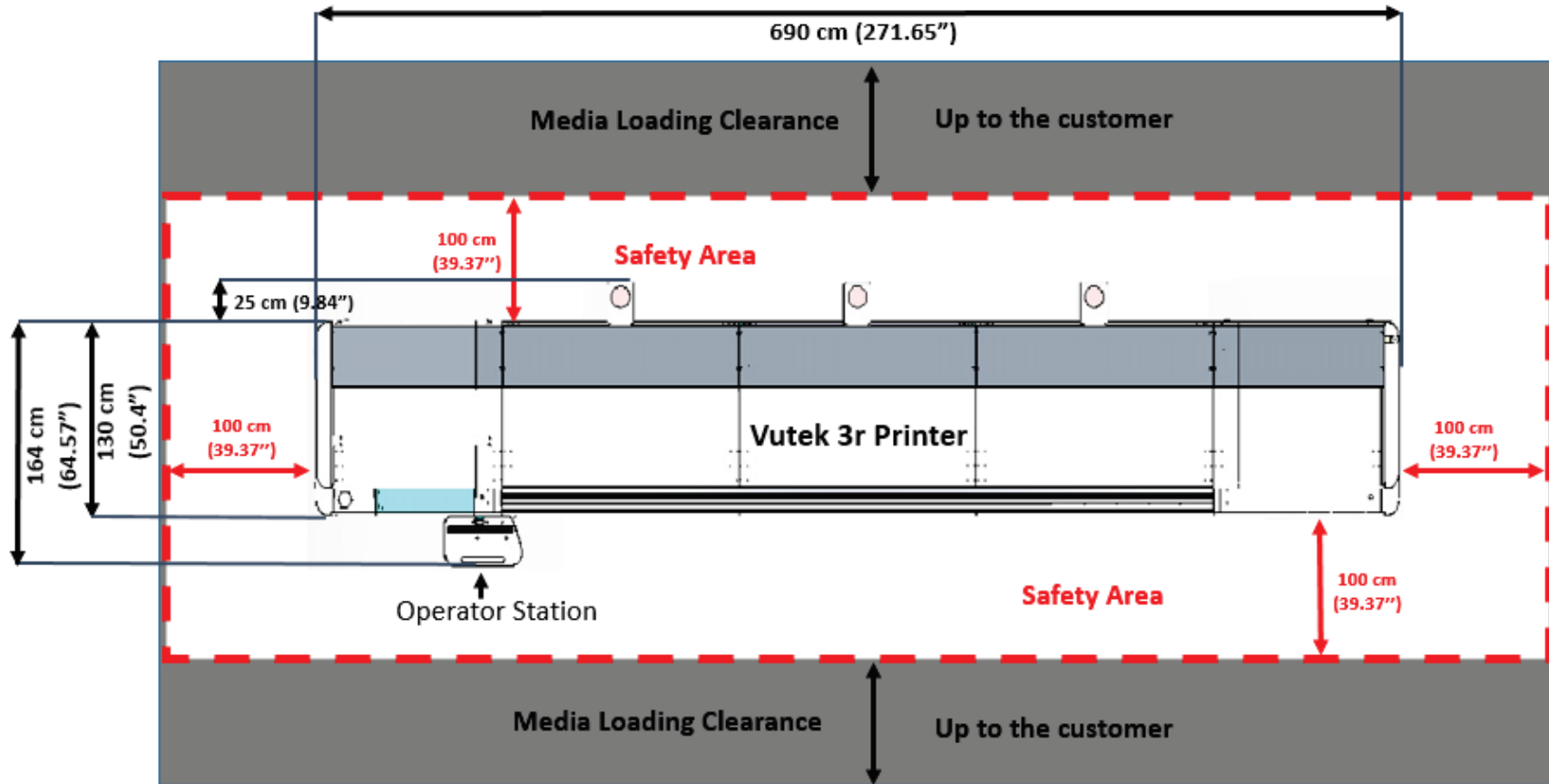


Figure 11

5.2 VUTEK 5r+/D5r Standalone Dimensions and Clearances

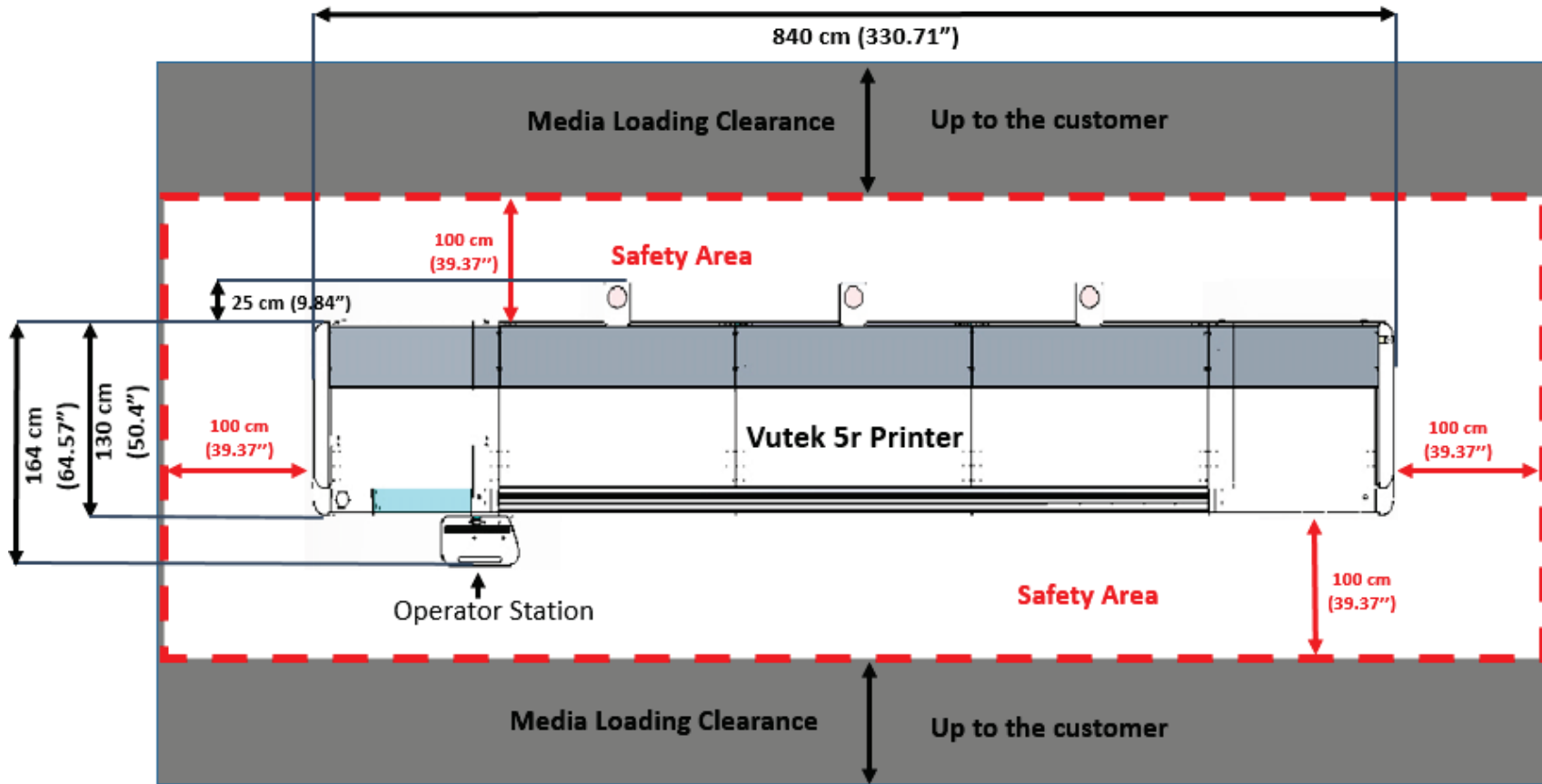


Figure 12

5.3 Flatbed Plus Tables Dimensions and Clearances

Two flatbed tables are required when printing on rigid media (one table at the front and one at the back). The relative details are listed below.

Table 8: Dimensions – VUTEk r Series Printer & Flatbed Plus Table

Overall Dimensions	Printer 5r+/D5r & Flatbed Plus	Printer 3r+/D3r & Flatbed Plus Tables
Length	840 cm (330.71")	690 cm (271.65")
Depth	418 cm (164.57")	418 cm (164.57")
Height (when Hood is open)	260 cm (102.36")	260 cm (102.36")

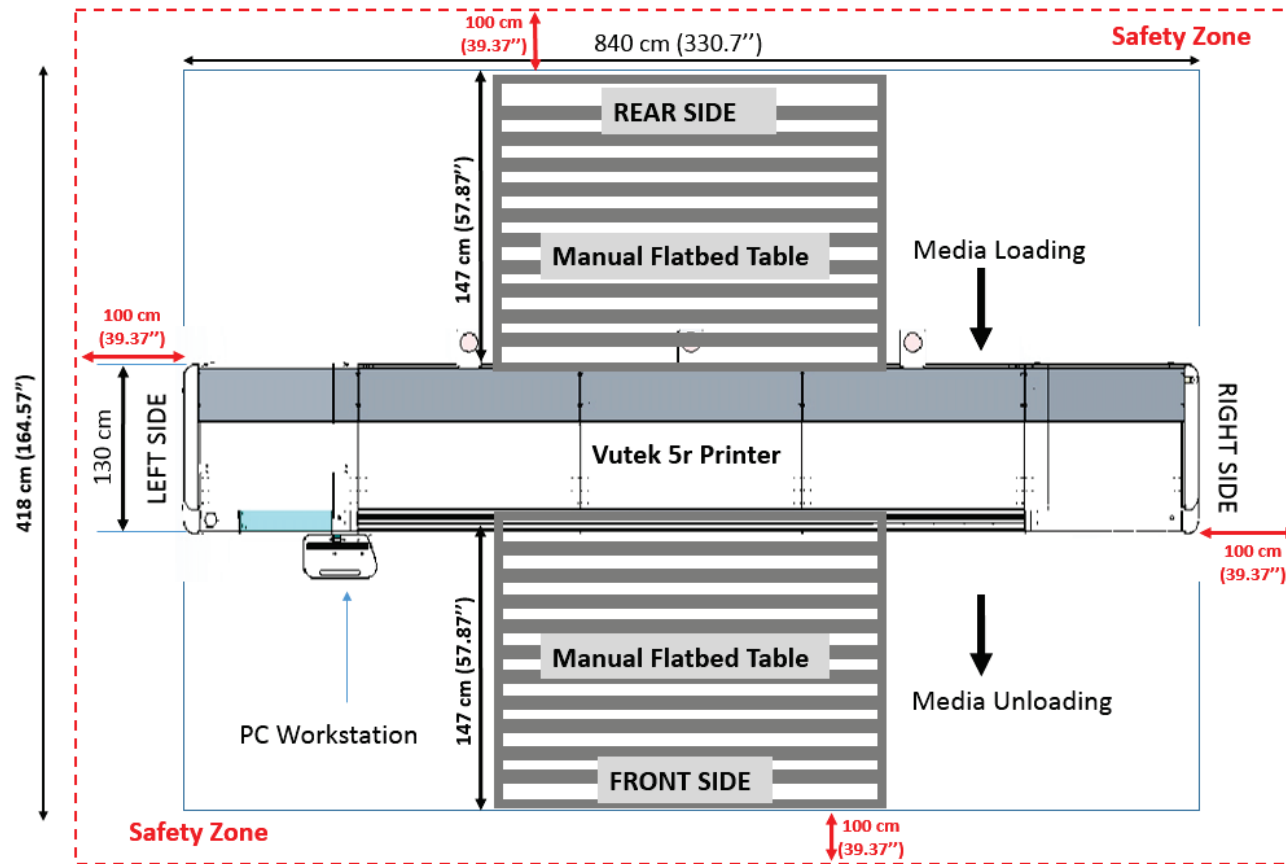


Figure 13: Footprint of VUTEk 5r Printer with Flatbed Plus Table (not to scale)

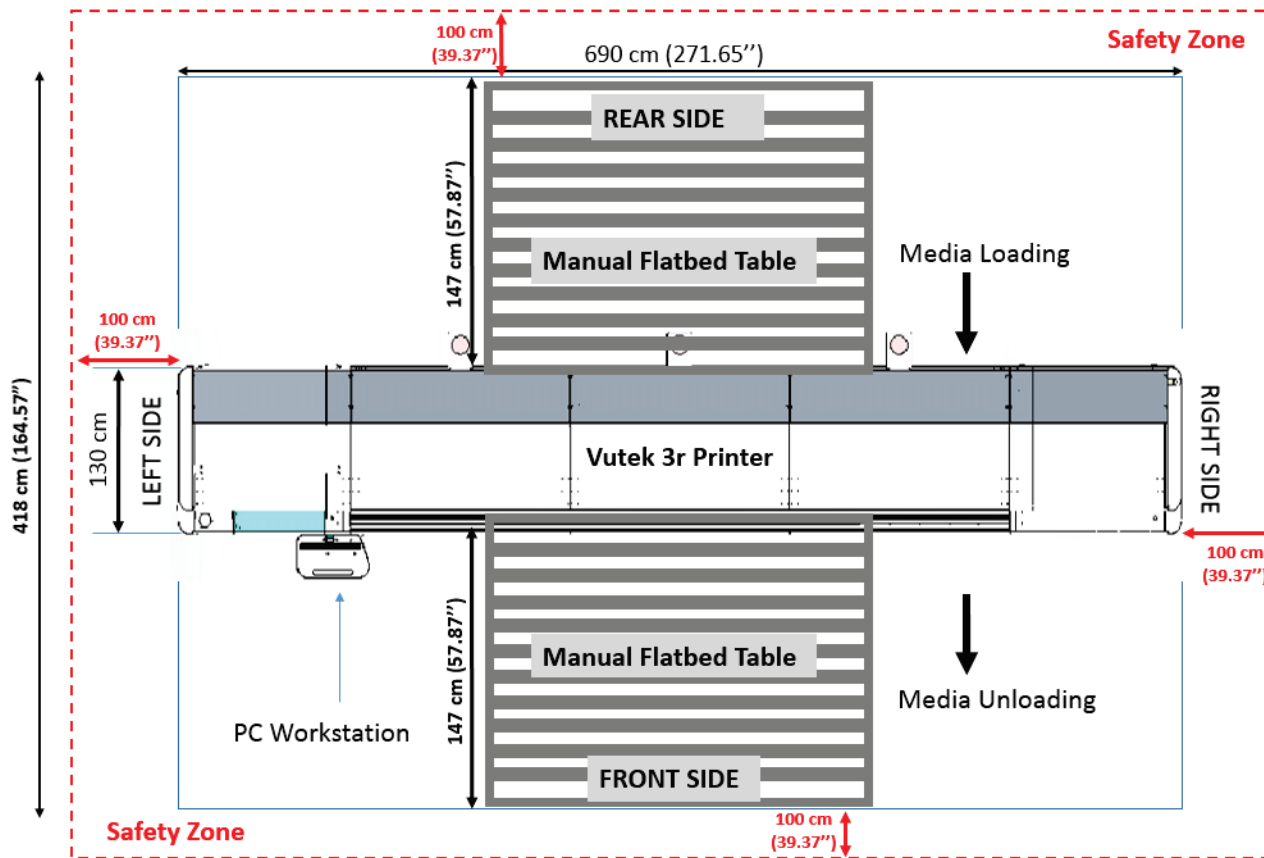


Figure 14: Footprint of VUTEk 3r Printer with Flatbed Plus Table (not to scale)

NOTE: To meet safety and fire prevention requirements, there should be completely unobstructed emergency access to all sides of the printer.

5.4 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 3r+/D3r printer and three to the VUTEk 5r+/D5r Printer.

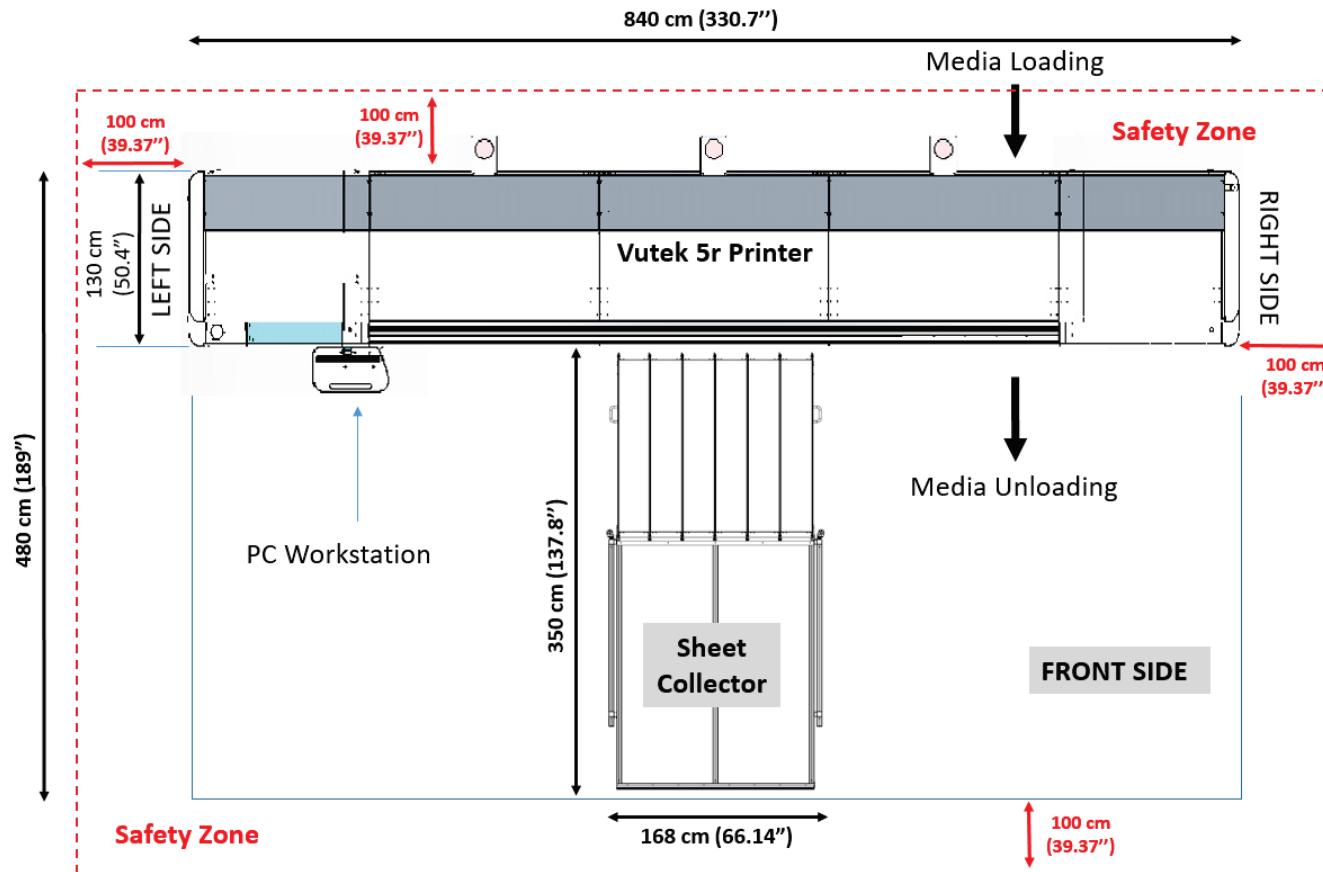


Figure 15: VUTEk 5r Printer with Sheet Collector (not to scale)

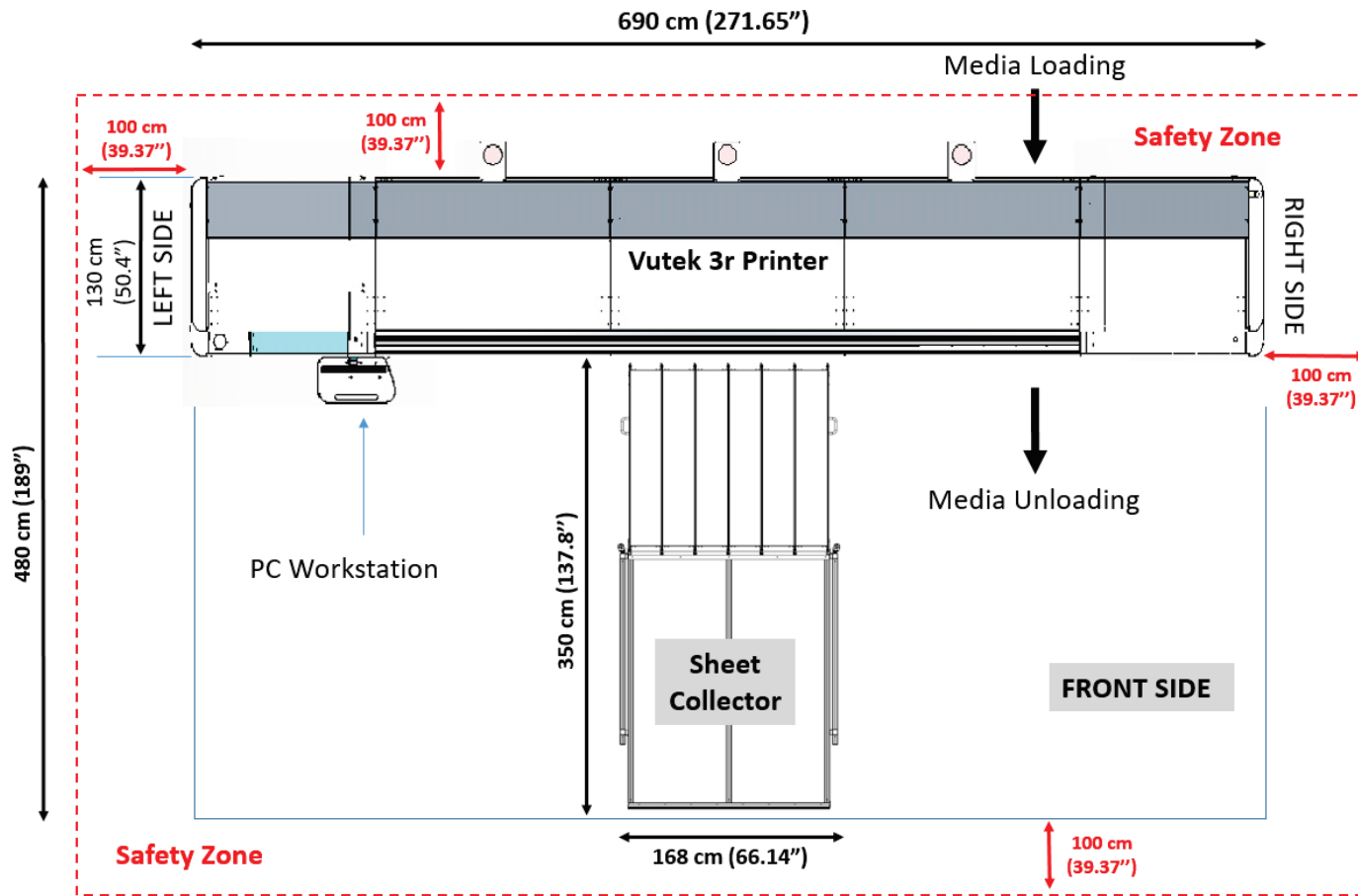
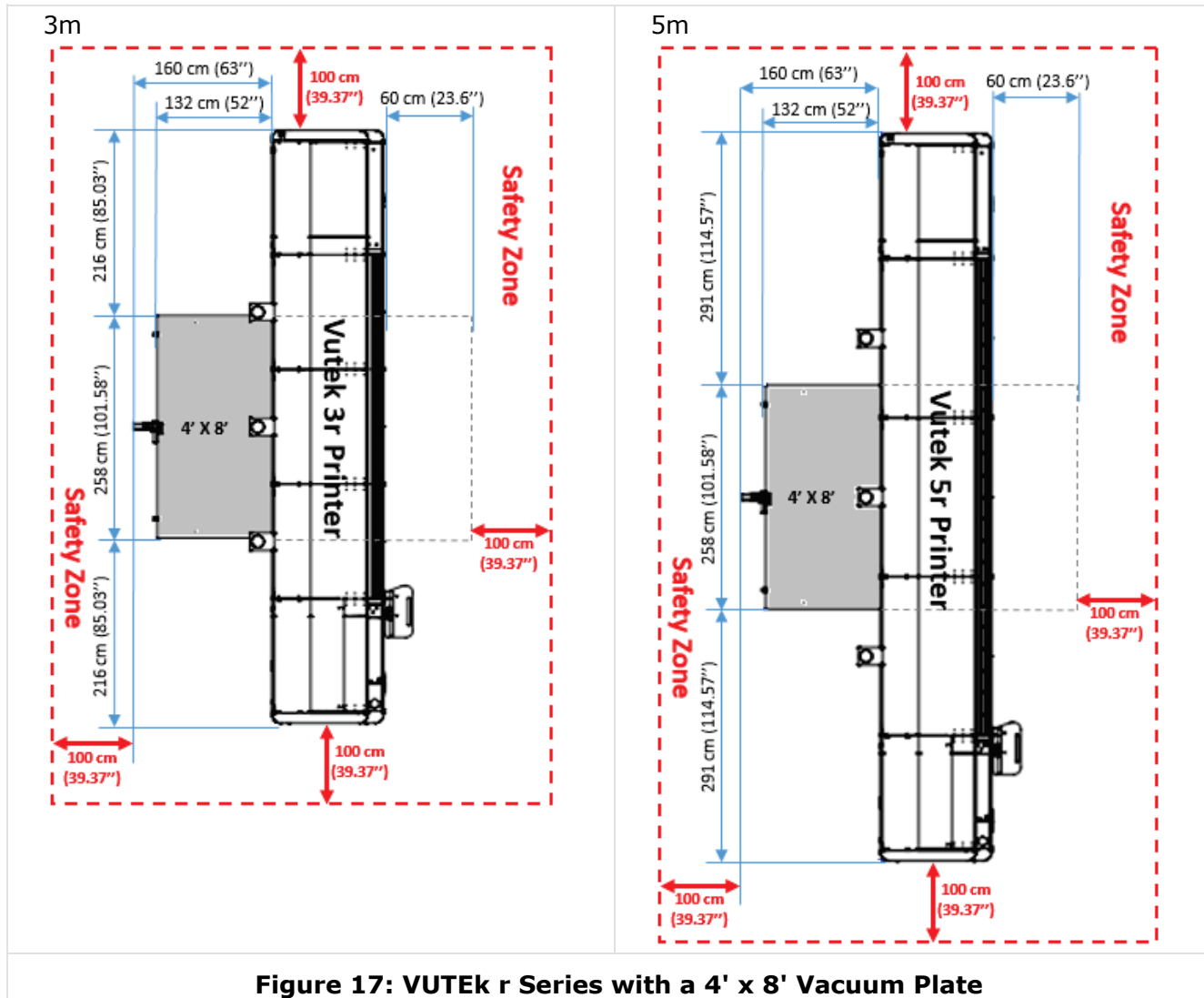
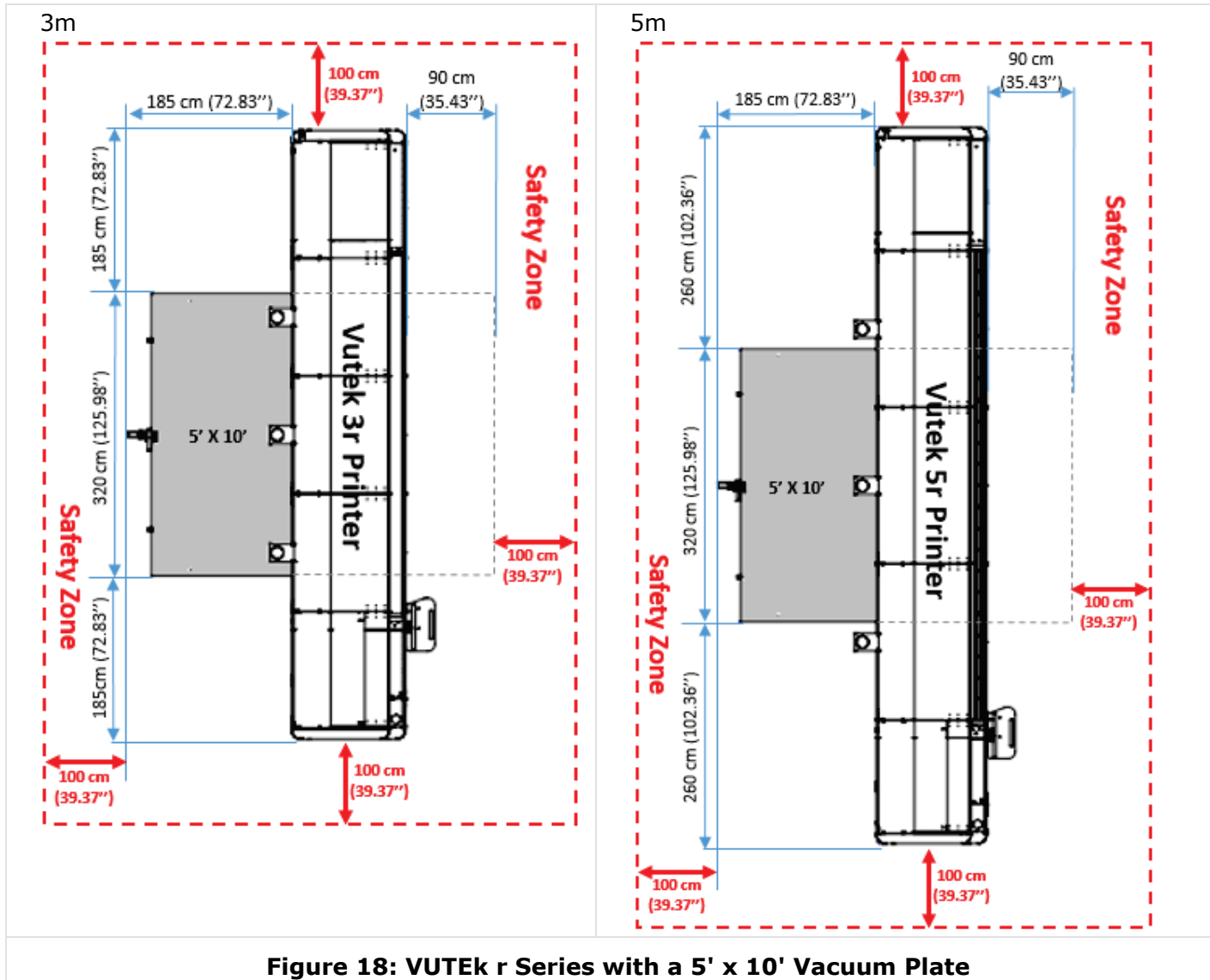


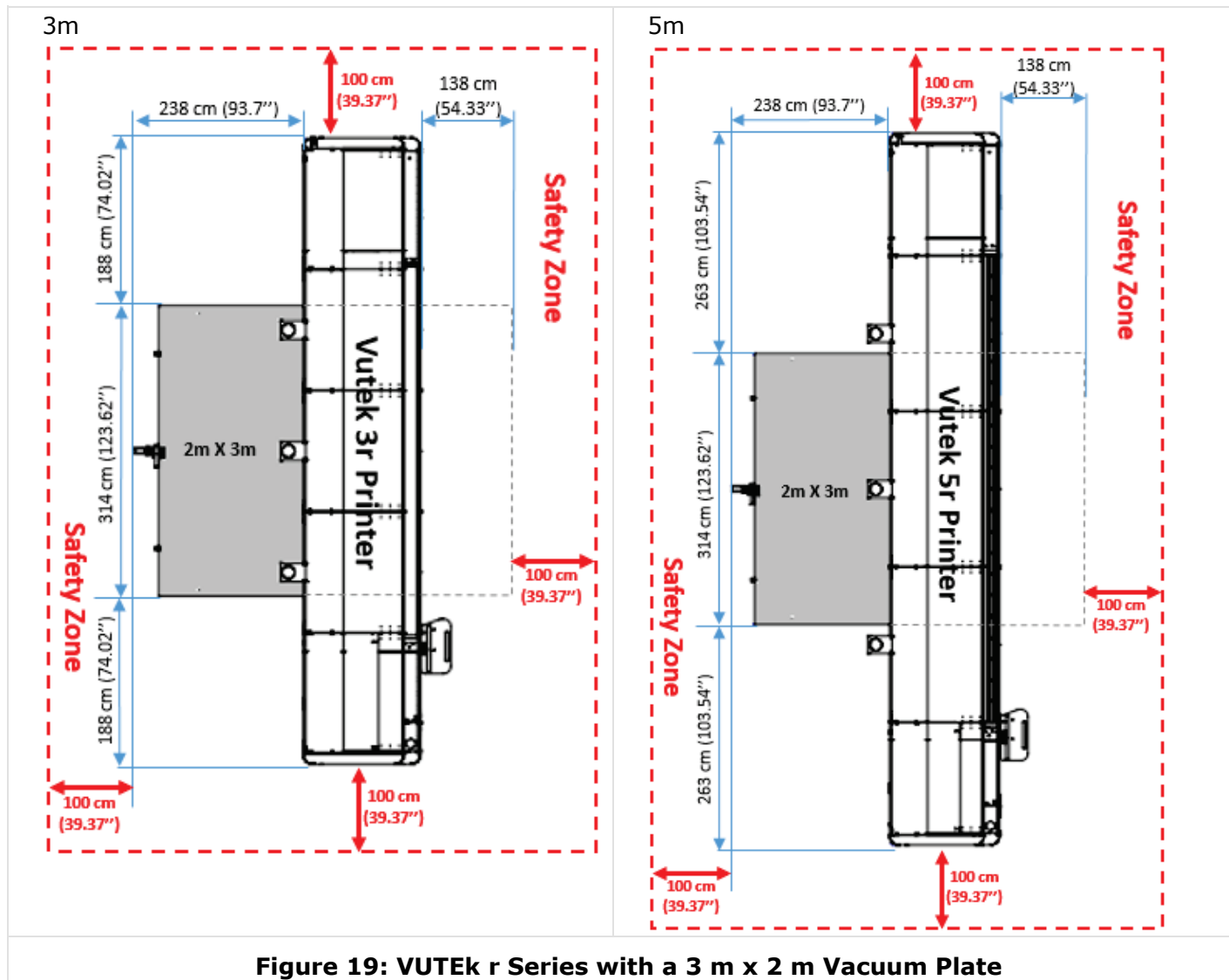
Figure 16: VUTEK 3r Printer with Sheet Collector (not to scale)

5.5 Vacuum Plate Dimensions and Clearances

The vacuum plate is required when printing on rigid media. The following diagrams (not to scale,) illustrate the **VUTEk r Series** printers' main dimensions, with all the different vacuum plate options.







5.6 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 is comprised of a feeder and collector, each equipped with a dancer and external motor. It can be supplied for either the 5 m or 3 m printers.



Figure 20: Jumbo Roll Feeder

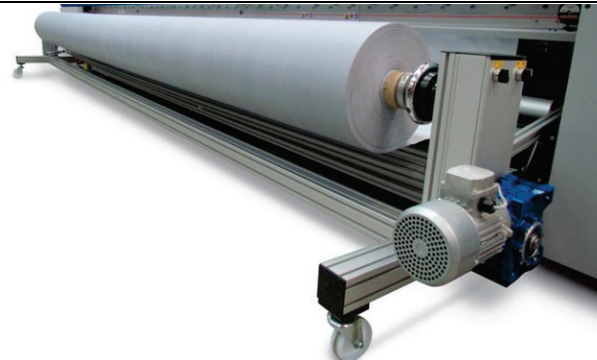


Figure 21: Jumbo Roll Collector

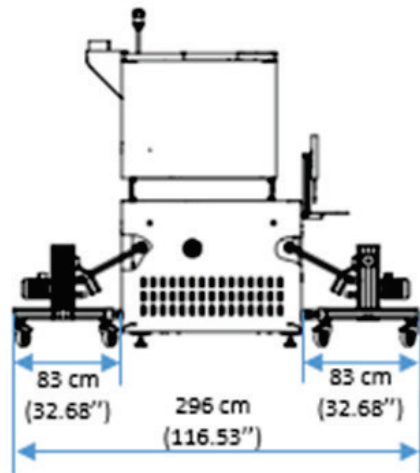


Figure 22: 5r with Roll Handling (side view)

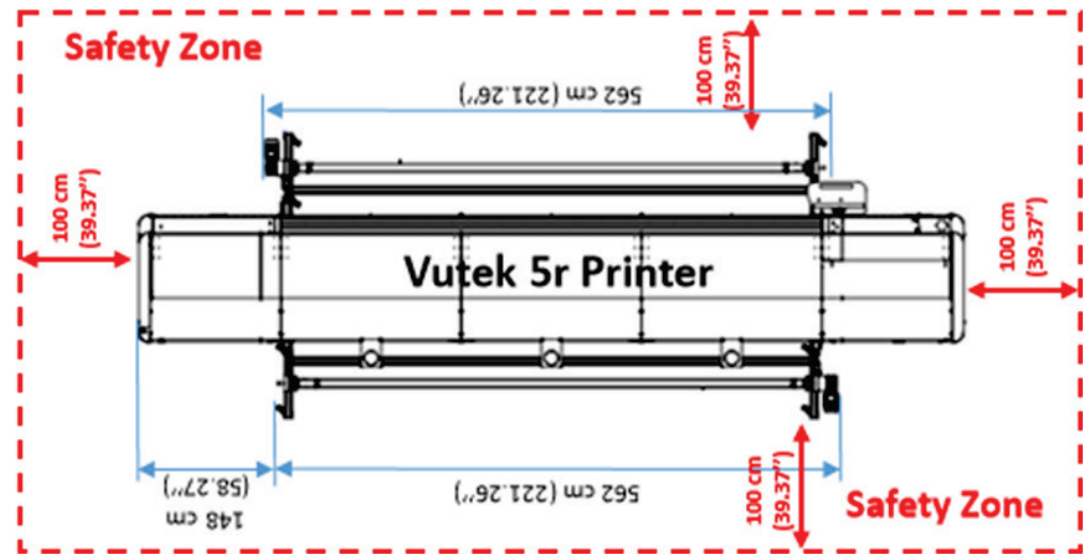


Figure 23: 5r with Roll Handling (top view)

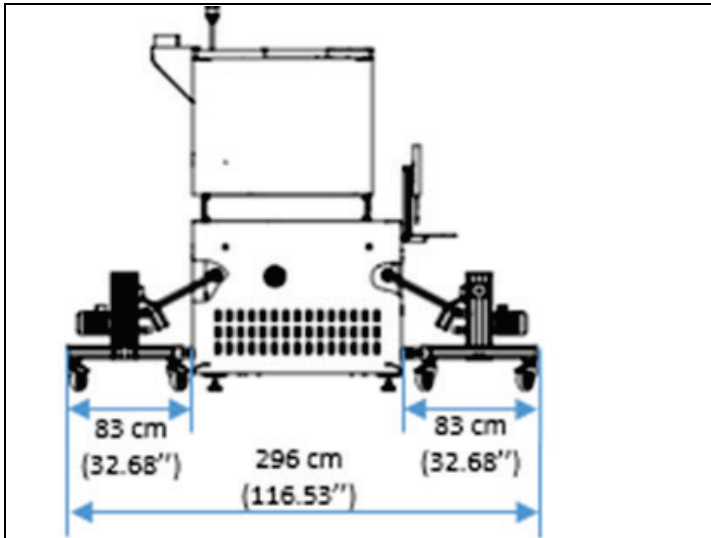


Figure 24: 3r with Roll Handling (side view)

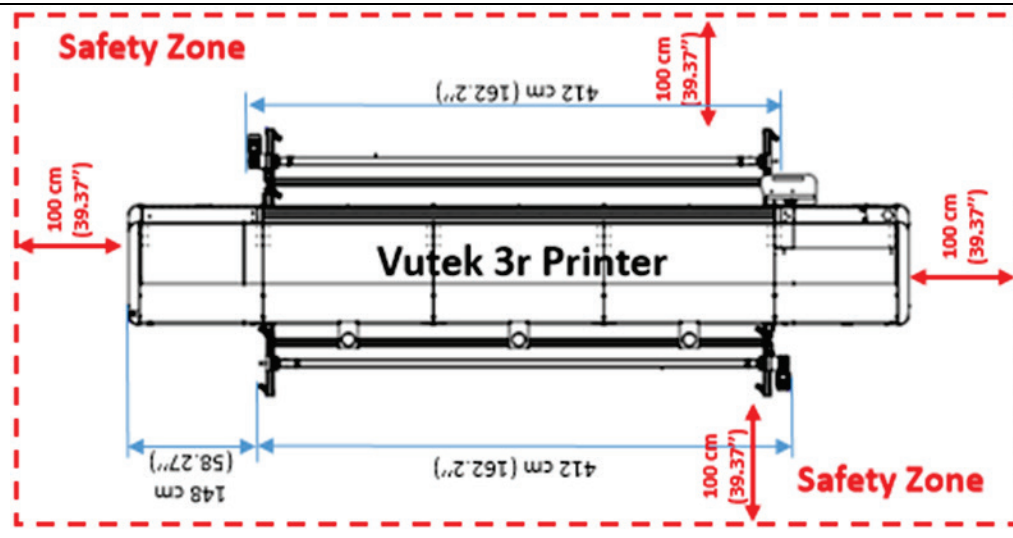


Figure 25: 3r with Roll Handling (top view)

5.7 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.

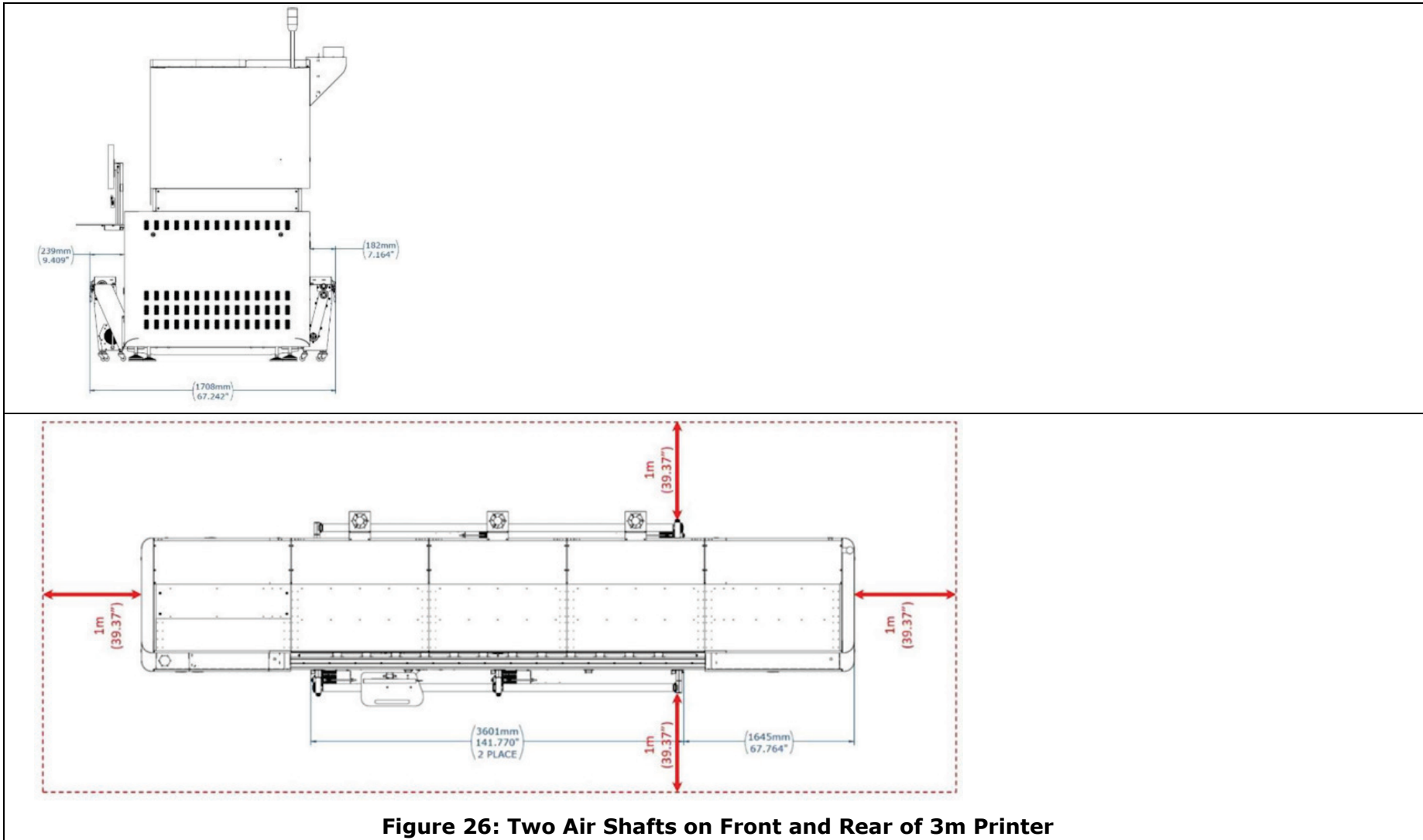


Figure 26: Two Air Shafts on Front and Rear of 3m Printer

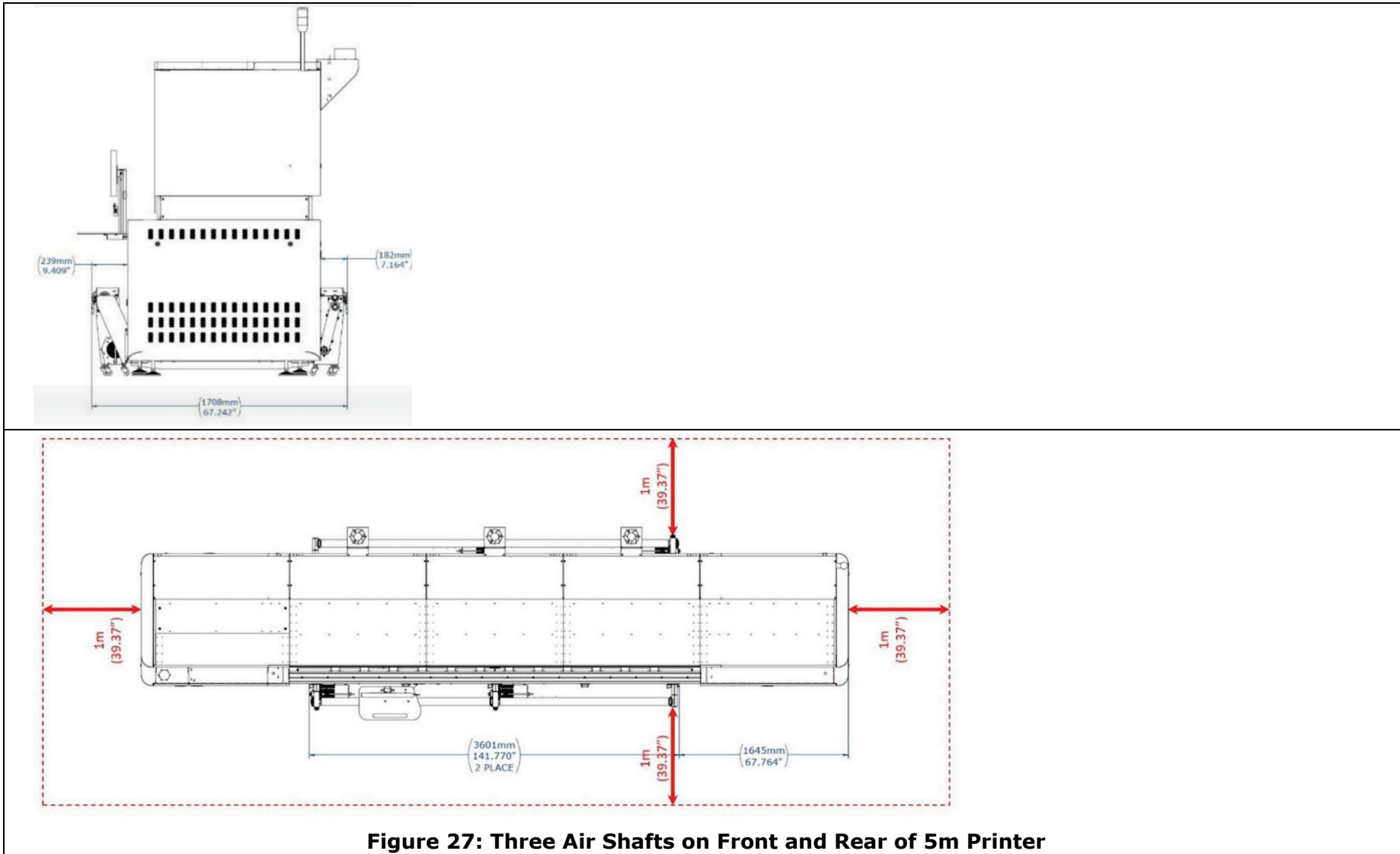


Figure 27: Three Air Shafts on Front and Rear of 5m Printer

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

5.8 Roll and Tape System Dimensions and Clearances

The roll and tape system rolls up each job as it exits the printer and tapes it closed.

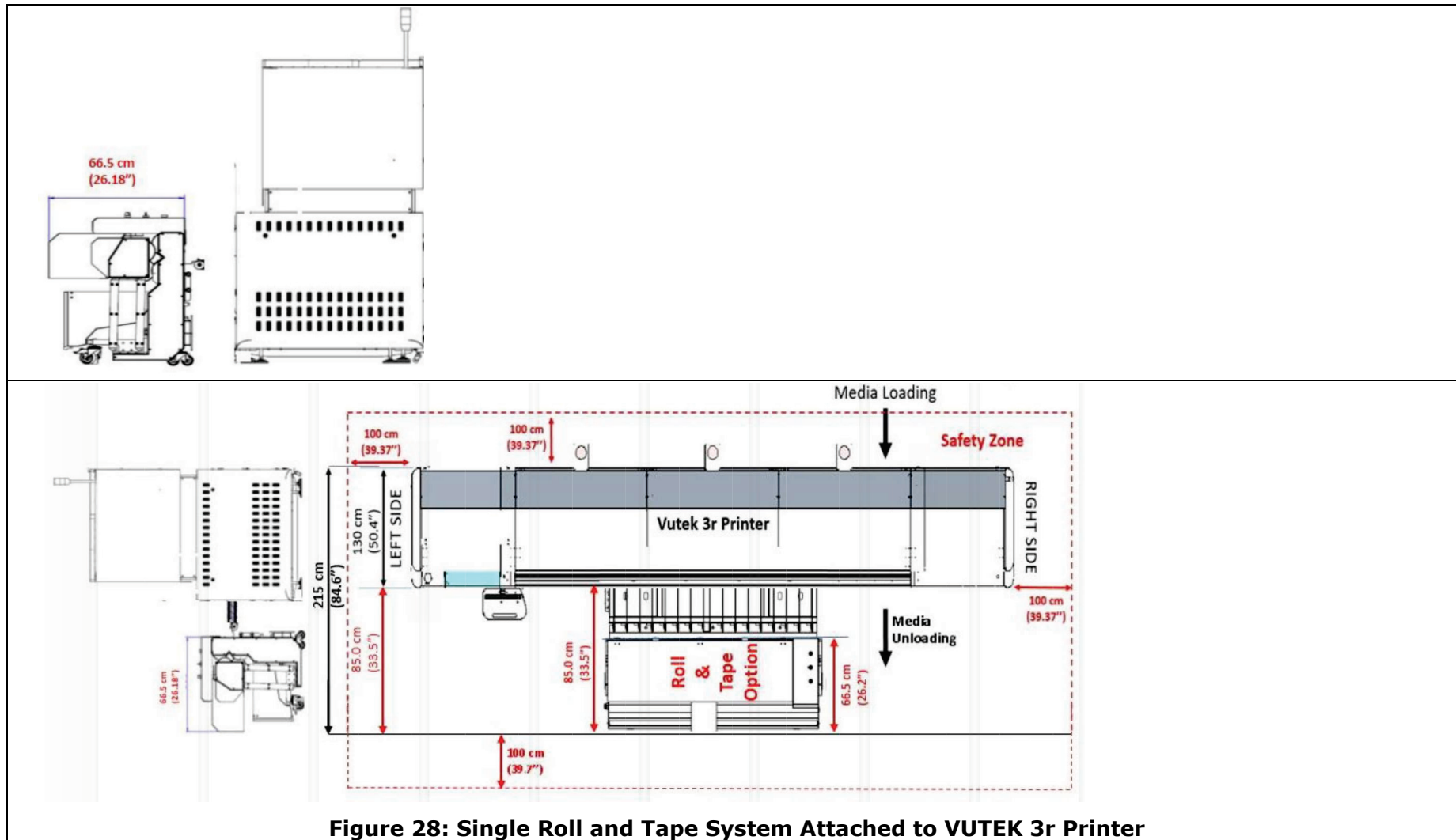


Figure 28: Single Roll and Tape System Attached to VUTEK 3r Printer

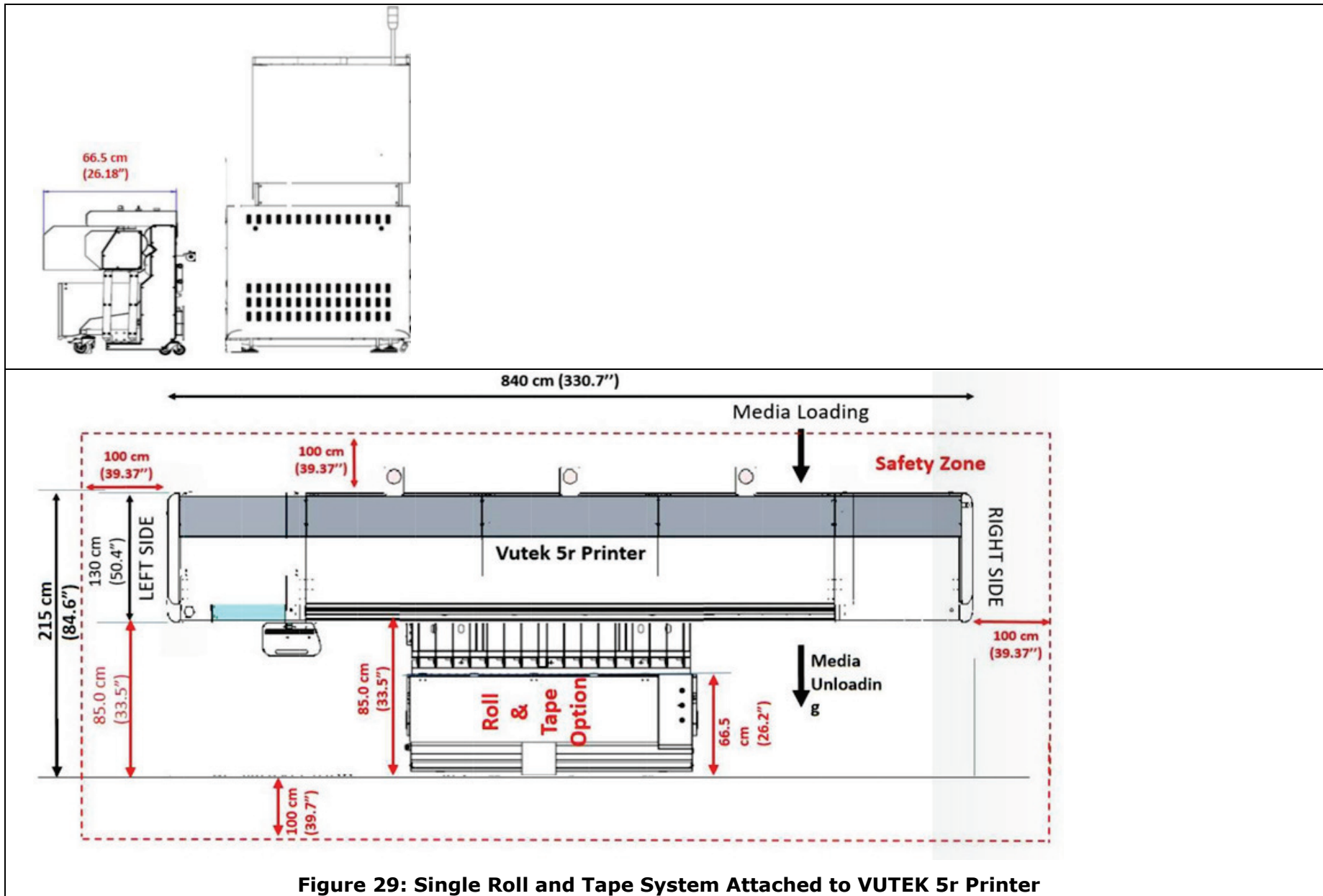


Figure 29: Single Roll and Tape System Attached to VUTEK 5r Printer

6.0 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.

6.1 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.

6.2 Ethernet

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

6.3 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