

# 2

## Site Preparation

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## 2.1 Overview

This chapter describes how to prepare the customer site for Dolev 4press V/V<sup>2</sup> imagesetter installation.

It includes details on such requirements as:

- Floor space
- Electrical
- Environmental
- Communications
- Inline processor (ILP).

### **Before installing the Dolev 4press V/V<sup>2</sup> imagesetter:**

- Read this chapter thoroughly before attempting to install the imagesetter. It will help to prevent unnecessary problems and delays.

## 2.2 Pre-installation Checklist

Before arrival of the Dolev 4press V/V<sup>2</sup> imagesetter at the installation site, you should prepare a final layout of the site, and determine that all requirements will be met. Work together with the customer to ensure that you have all pertinent details:

Requirement Item	Met?
1. Electrical power	<input type="checkbox"/>
2. Isolation transformers or power conditioners	<input type="checkbox"/>
3. Circuit breakers and sockets	<input type="checkbox"/>
4. Grounding network	<input type="checkbox"/>
5. Air-conditioning power	<input type="checkbox"/>
6. Space	<input type="checkbox"/>
7. Cable routing provisions	<input type="checkbox"/>
8. Communication network	<input type="checkbox"/>

Requirement Item	Met?
9. Water supply	<input type="checkbox"/>
10. Illumination	<input type="checkbox"/>
11. Fume exhaust system	<input type="checkbox"/>
12. Delivery route: doors, corridors, elevators	<input type="checkbox"/>
13. Protection from direct sunlight	<input type="checkbox"/>
14. Anti-static flooring	<input type="checkbox"/>
15. Thermometers and humidity meters/recorders	<input type="checkbox"/>
16. Storage space	<input type="checkbox"/>
17. Access to and operation of the system	<input type="checkbox"/>
18. Inline processor	<input type="checkbox"/>
19. Phone lines (two outlets)	<input type="checkbox"/>
20. Preparation of technical drawings	<input type="checkbox"/>
21. Preparation of electrical wiring	<input type="checkbox"/>
22. Preparation of air-conditioning plans	<input type="checkbox"/>
23. Air pressure	<input type="checkbox"/>
24. Fire detection and prevention	<input type="checkbox"/>



**Note:** For additional guidance on site preparation, see the *Creo Site Preparation Guide*, 745-74181.

## 2.3 Space Requirements

### 2.3.1 Floor Space

Depending on the model, the Dolev 4press V/V<sup>2</sup> imagesetter requires between 5.7 and 6.32 cubic meters of space. This measurement reflects the area required around the imagesetter, to allow for unimpeded work and considerations such as heat dissipation.

The following figure shows the minimum floor dimensions required for proper operation of the imagesetter.

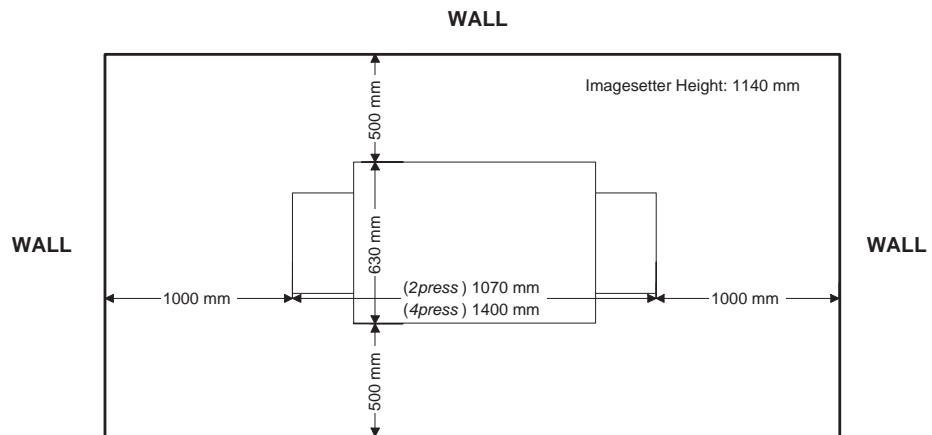


Figure 7: Imagesetter space requirements



**Note:** This diagram does not depict use of an inline processor. See *Inline Processor Requirements* on page 26, for details.

### 2.3.2 Imagesetter Weight

The Dolev 4press V/V<sup>2</sup> imagesetter weighs between 180 and 230 kilograms and rests on four (4) symmetrically-placed cushioned legs. Most standard industrial floors are strong enough to support the imagesetter, though actual room dimensions and additional equipment at the site should be considered.

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## 2.4 Electrical Requirements

### 2.4.1 General Considerations

The total power consumed by your system is determined by the system configuration selected. Remember to allow sufficient margin for system expansion when calculating the required electrical capacity.

### 2.4.2 Supply

Each separate piece of equipment is individually powered from source, allowing maximum permutation of layout, and reduced dependency during operation. Provision of sufficient power sockets must therefore be taken into consideration.

All equipment operates from standard mains supply sockets. The Dolev 4press  $V/V^2$  imagesetter is switch-selectable to comply with a wide range of voltage applications.

Voltage variations of up to  $\pm 10\%$  on all selectable voltages are acceptable. Supply frequency variations of  $\pm 2$  Hertz are similarly acceptable.

The main circuit breaker should be a shunt trip breaker, which trips on loss of voltage. A single phase isolated outlet is required for the Dolev 4press  $V/V^2$  imagesetter.

#### **Note the following guidelines:**

- The input power cable (from the building input feeder/main power entrance to the system branch circuit power panel) should be a dedicated line, 5-wire protected cable, not longer than 30 meters (100 feet).
- Output circuit breakers should be used for every branch circuit (outlet). Each circuit breaker should be labeled, identifying its load relationship, and correspondence to outlet.
- Additional isolated single phase outlets are required for service purposes.
- Special codes and regulations may exist covering the installation of electrical facilities in general, and in computer sites in particular. Ensure that site construction complies with these local codes before the system is delivered.

### 2.4.3 Power Line Disturbances

The reliable operation of computer systems depends on the availability of relatively noise-free AC power.

Lighting, line faults, or the power switching, commonly found in machinery or equipment in office or factory environments, can generate line transients which far exceed the peak value of the applied voltage. If not attenuated, these micro-second pulses can disrupt system operation.

**Note the following guidelines:**

- Limited power supply attenuation has been incorporated into your equipment to minimize the possible effects of disruptive factors (such as transient and instantaneous power interruptions).
- Since these conditions are unique to your particular site, we recommend additional protection, including provision of a mains input circuit breaker with shunt trip, and an isolation transformer with common mode noise attenuation of more than 120 decibels.
- It is recommended that the power conditioner isolation transformer used should be one which includes a power distribution system (output circuit breakers and receptacles). When installed in the system room, the conditioner/transformer will make system installation easier and reduce installation time and cost.
- All other potential noise-generating equipment (for example, fans, fluorescent lighting and air-conditioning system) must be separated from the power source used for the system.

### 2.4.4 Grounding

The power ground system for 50 Hertz sites should include the 220 Volts AC and 380 Volts AC grounds, tied back to the main power ground point of the building, by means of a 40 millimeter solid copper wire (7 millimeter in diameter).

At 60 hertz sites, 220 volts AC, 110 volts AC, and 208 volts AC grounds tied by AWG #1 solid copper wire are required.

Grounding requirements for the Dolev 4press  $V/V^2$  imagesetter, and all equipment communicating with it, should be observed to ensure trouble-free operation.

**Grounding requires the following:**

- Grounding wires that are insulated and at least equal in size to the phase conductors.
- Ground impedance less than 2 ohms.
- A single point and dedicated ground.
- Power stabilizer equipment that is supplied by three (3) uninterrupted phase wires, and one uninterrupted copper ground wire, from the main building entry service panel. These should run in the same conduit and be at least equal in size to the phase wires.
- Neutral and ground are bonded together in the main building entry service panel, and a good earth ground at this point of not more than 2 Ohms impedance.
- Each system load (Imagesetter, Host, etc.) is fed through an isolated ground outlet and has a separate ground, as well as neutral and phase line of equal size wire.
  - Chained neutrals or grounds are not permissible.
- All ground wires from isolated ground outlets are kept isolated from building ground and terminated only at the ground bus of the power stabilizer.
- Other equipment, not on the power stabilizer but communicating with the imagesetter, must have a reference ground wire installed between the power stabilizer ground bus and that piece of equipment.



**Note:** These instructions **do not** replace any enforced government or local standards. The engineer performing installation should check the applicable electrical code and assure full compliance.

## 2.4.5 Cables

**If cables must be routed through a wall, the holes in the wall should be as follows:**

- Round holes should be 10 centimeters (4 inches) in diameter.
- Square holes should be 8.9 centimeters (3.5 inches) in diameter.



**Important:** No electrical wiring (stabilized or unstabilized) may run in the data cable conduit.

## 2.5 Environmental Requirements

### 2.5.1 Cleanliness

The cleanliness of standard laser operating environment, that is, up to 0.168 milligram/M (Class 4, B.S. 5295) should be as follows:

- Up to 200,000 particles/M<sup>3</sup> when greater than 5 microns.
- Up to 40,000 particles/M<sup>3</sup> when greater than 10 microns.
- Up to 4,000 particles/M<sup>3</sup> when greater than 25 microns.



**Note:** Filters in the air conditioning system will be able to block 60% of all 10 micron dust particles.

### 2.5.2 Static Electricity

Use of floor carpeting is not recommended in the imagesetter area. If carpets are used, only anti-static carpets should be installed at the site. Their size should be at least 2.5 m (8 feet) in all directions of the operator's access.

### 2.5.3 Air Conditioning

Sufficient air-conditioning should be present to provide heat dissipation for the Dolev 4press V/V<sup>2</sup> imagesetter (1500 BTU per hour) plus all additional equipment residing in the system room plus a minimum 25% safety margin.



Example (all in BTU/hour)

**Imagesetter:**                **1500**

**Host:**                                **2500**

**Light Table:**                + **3500**

**Other Misc:**                        **1500**

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**Safety Margin: :**        + **2250**

**+ (25% of above)**

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**Total Heat:**                        **11250**

- The Dolev 4press V/V<sup>2</sup> imagesetter requires a constant air temperature of 22°C ± 2°C and relative air humidity of 55% ± 5% when the imagesetter is ON.
- The maximum temperature variation is 5° per hour.
- The minimum allowed temperature is 10° when the imagesetter is OFF.

**Note the following guidelines:**

- It is recommended that the air flow in the System room be maintained above normal air pressure, in order to prevent dust from entering the room.
- The System room should ideally contain both a thermometer and hygrometer, permanently mounted in a central location.

## 2.5.4 Film Handling

The standard film will be orthochromatic (red sensitive), requiring a bright cyan safety light. (For more details, refer to the film manufacturer's recommendations).

Although the film must be loaded into its cassette in a suitable darkroom, following this initial step, routine film handling can be performed under normal daylight conditions. Direct sunlight should always be avoided.

## 2.6 Inline Processor Requirements

### 2.6.1 Recommended Vendors

The following manufacturers have designed ILP models which are compatible with the Dolev 4press V/V<sup>2</sup> imagesetter:

- Glunz & Jensen
- Lüth
- Echo Graphic.



For updated approved CTF processors see *Consumable / CTF Processors on Tech Planet*.