

DS4000 Printer Site Preparation Specifications

Maximum Image Size	Print Heads	Print Head Quantity	Inks - CMYK	Addressable Resolution
38 x 48 cm (15" x 19")	Ricoh Gen 5	16	M&R waterbase DS Ink	600 x 1200 dpi full greyscale
	Height	Width	Length	Weight
PRINTER	219cm (86in)	121cm (48in)	264cm (104in)	1200kg (2646lbs)
CRATED	221cm (87in)	145cm (57in)	285cm (112in)	1225kg (2700lbs)

*Forklift capable of 2700lbs. minimum load is required. A dock with a truck bay is also necessary.

Electrical

- 220v, 1ph, 10A, 50/60Hz, 2.2 kW
- Power must be available **BEFORE** installation

Air Hookup

- 87psi (6 bar), 3cfm (85 L/min)
- Connector must be 1/4in or 4mm diameter tube
- Recommend "T" splitter before the hose goes through the on press oiler
- Air drop with a quick connect fitting

Flooring

- Ensure that the installation site is level and capable of supporting the combined weight of the printer, packaging materials, and forklift
- Confirm that the flooring is a stable, solid, smooth, and unmarred concrete floor free of vibration

Environment

- Temperature - between 64°F to 86°F (18°C to 30°C)
- Humidity - greater than 40% ~ 70% (non-condensing)
- Dust free
- Sheltered from strong sunlight
- Proper ventilation is installed
- No high intensity electrical / magnetic sources nearby

Pre-Delivery Instructions

- Obtain a street / building access permit if needed
- Hire professional, bonded, and insured rigging company to move the printer from the truck to the installation site
- Provide the rigger that you have hired with the printer dimensions, and make sure they are aware that the printer will be delivered in an enclosed trailer
- Ensure that all doors and hallways exceed the measurements of the crated printer
- Ensure the flooring along the installation path is capable of supporting the combined weight of the printer, packaging materials, and forklift

- Ensure compliance with all safety codes
- Perform any necessary heating, ventilation, and/or air conditioning work prior to delivery

Network

- Ensure that the pre-press computer and network are in place and configured for connection
- Confirm that the network credentials are met prior to installation of the printer

Ink and Substrate

- Initial ink and consumables orders need to be completed prior to delivery of the printer
- Recommended to order at least one 5L container of ink **EACH** for Cyan, Magenta, Yellow, and Black

Safety

- Check with your local Occupational Health and Safety Agency (OSHA), and the department for codes governing safety in the workplace
- Teach basic safety principles to all users and operators
- Post safety signs in key areas to alert personnel of potential dangers
- Install eyewash stations in easily accessible locations near the printer
- Install fire extinguishers containing CO2 in a clearly visible spot, within 25 feet (7.6m) of the printer
- Ensure that a procedure is in place for the safe disposal of any waste ink / cleaner

Customer Required Materials

- Computer that is compatible with the RIP software
- Dedicated operator(s) for entire training package

Accepting Delivery

- Carefully inspect the crate and packaging prior to unloading and verify the package count

Shipping and Delivery Specifications

Printer Specifications

- Maximum Image Size: 38 x 48 cm (15" x 19")
- Print Head Tech: Ricoh Gen5 Variable drop piezo inkjet 7, 14, 21
 - Print Head #: 16 for DS4000 / 8 for DS1500
 - Ink Type: M&R Water-base DS ink
- Colors: CMYK (DS-CYAN-5 / DS-MAGENTA-5 / DS-YELLOW-5 / DS-BLACK-5)
- Addressable Resolution: Full Grey Scale, Resolution 600 x 1200 dpi

Printer on Pallet

- Height: 87 in (221cm)
- Width: 57 in (145cm)
- Length: 112 in (285cm)
- Weight: 2700 lbs. (1225 kg)

Forklift capable of minimum 2700 lbs. load required.

Printer Removed from Pallet

- Height: 86" / 219cm
- Width: 48" / 121cm
- Length: 104" / 264cm
- Weight: 2646 lbs. (1200 kg)

Electrical Requirements

- 220v, 1ph, 10A, 50/60Hz, 2.2 kW

Compressed Clean Dry Air

- 87psi (6 bar), 3cfm (85 L/min) (1/4in or 4mm diameter tube)
(Recommended T off air before the hose goes through the oiler on the press / dedicated line)

Environmental

- Temperature 64°F to 86°F (18°C to 30°C)
- Humidity: Greater than 40% ~ 70% (non-condensing)
 - Dust-free
 - Sheltered from strong sunlight
 - In good ventilation condition
- Away from high-intensity electrical and magnet resources.

Printer Shipping and Delivery

M&R is responsible for delivering each printer to its designated site. Each printer is delivered in an enclosed trailer. Therefore, the printer pallet or crate is not accessible from either side, only the ends. You are responsible for choosing and hiring a rigger to unload your printer once it arrives at your facility.

Provide your rigging company with the Printer Specifications for proper fork lift truck sizing.

Receiving the Equipment

It is your responsibility to pay for all freight and moving expenses and for ensuring proper receipt of the printer. Any damage incurred while the printer is being unloaded, moved or placed into position is not the responsibility of M&R. The shipper is responsible for delivering the printer to your site without damage.

Delivery Logistics

Where possible, every printer sold in the continental United States is delivered via **air ride truck**. In the event of an ocean freight delivery, the printer is crated and **vapor sealed**.

Before the printer arrives, perform the following tasks:

- Determine whether you will require a permit for street or building access or moving the printer into your building.
 - Hire a professional, bonded, insured rigging company to move the printer from the truck to the installation site.
- Ensure that all doors and hallways between the loading dock and the final installation site exceed the measurements for crated or palletized printer.
- Ensure that the flooring along the path between the loading dock and the final installation site is level and able to support the weight of both, the printer, packaging materials and fork lift truck.

The crated or palletized printer should be moved or positioned by competent, bonded, insured riggers. Any damage occurring as a result of moving or positioning the printer is the customer's responsibility.

Detailed Printer Delivery Information

When hiring a moving company or a rigger be sure to obtain copies of all relevant insurance and bond policies prior to scheduling delivery. As the customer, you are responsible for insurance and bond verification of the total value of the printer and any accessories prior to scheduling delivery.

Accepting Delivery

When the printer arrives at your facility, carefully inspect the crate and packaging prior to unloading from the truck. Carefully inspect and look for signs of damage that may have occurred during shipping.

Verify the package count against the packing slip.

Prior to unloading the printer from the truck, ask the shipper the following questions

- Were there any issues with the transport and delivery of the printer?
 - Is there any visible damage to the printer packaging or crating?

If the answer to any of the questions is yes, contact **M&R Technical Support (1 800-736-6431)** immediately and note the information on the packing slip. Take pictures of any damage identified prior to unloading and after unloading. Any damage or missing items must be reported immediately to the shipping company listed on the delivery slip, as well as M&R. If items are missing, mark the packing slip accordingly.

Flooring

Ensure that the flooring along the path between the loading dock and the final installation site is level and able to support the weight of both the printer, packaging materials and fork truck.

DS4000 printers are aligned at the factory to very tight tolerances. In order to maintain printer alignment, the printer must be installed on a solid, smooth, **unmarred** and stable concrete floor. If you find any defects in the flooring, it must be corrected with plates to perfectly level the surface. Floor surfaces that flex or transfer vibrations, such as wood, or steel, are not acceptable.

If the printer is installed on a floor that cannot adequately support its weight, the printer can move or twist. This movement leads to significant misalignment and other potential problems.

M&R is not responsible for print quality issues, misalignment or damage to the printer resulting from an unstable floor. The flooring beneath the printer must be:

- A solid concrete base capable of supporting the printer's weight.
- A level surface, free of any vibration. Easily cleaned (free of dust and static electricity).

Ink and Substrate

Initial ink and consumables orders need to be completed while you are preparing your site, and before the printer arrives. You may purchase substrates from M&R or from another vendor. A DS4000 printer comes with a starter kit containing enough ink and consumables for setup and testing. You should order additional ink and consumables for production. M&R recommends ordering at least one case of each ink color (CMYK). Depending on production needs, increase these quantities in order to avoid downtime due to lack of supplies.

PLEASE BE ADVISED: Ink Associated with this product has a limited shelf life. Stock control and rotation is required.

Site Preparations

Preparing the site is the most important element to building a foundation for future printing success. You are responsible for contracting with local resources not affiliated with M&R. These resources may include:

- Local safety code specialists
- Heating, ventilation, and air conditioning (HVAC) professionals (Customer is responsible for providing proper environmental condition for DS4000 to work properly)
 - Licensed electricians
- Pneumatic (compressed air) systems professionals. Constant air pressure must be available to the DS at all time - failure to comply will result in digital service charge if repair is necessary.
 - Network professionals
- RIP Work Station procurement.

Safety

Check with your local Occupational Health and Safety Agency (OSHA), and the fire department for codes governing safety in the workplace.

- Teach basic safety principles to all users and operators.
 - Post safety signs in key areas to alert personnel of potential dangers.
 - Install eyewash stations in easily accessible locations near the printer.
- Store flammable materials (such as solvents) in specially designed and clearly labeled Storage cabinets.
 - Install fire extinguishers containing CO2 in a clearly visible spot within 25 feet (7.6m) of the printer.

Because your printer consumes ink, a certain amount of waste will be generated. It is important to understand and comply with all local regulations governing the handling and disposal of these wastes.

Network

Before the printer is installed, the Pre-Press computer and Network need to be in place and configured for connection to your DS4000 printer. Hiring a network professional if you do not have one on staff, helps ensure that your facility and network are configured properly.

RIP Workstation Requirements

Caldera RIP software is supplied with the DS4000. (Copy RIP / Textile Pro *upgrade)
Customer is required to obtain PC/Mac type Computer. RIP can run on Linux or Mac OS
Customer needs to purchase RIP PC before Technician arrives for the installation.

Pc Configuration:

Linux OS : Official Debian 8.6 Jessie (Mate desktop)
CALDERA Debian 2 (however APPE3 – no APPE4)
Processor : Intel Core i3, i5 or i7.
RAM : 4GB or 8GB (recommended)
Minimum 1GB per core, recommended at least 2 GB per core
HDD : 250GB
Monitor / Video card : 1280×1024 minimum resolution
Nvme SSD not yet supported
Laptop not recommended for production

You will not be able to purchase PC with Linux OS installed, please obtain PC with Microsoft Windows operating software. Note that Windows OS will be removed during Linux installation.

Mac Configuration:

Hardware : Intel Core i3 ,i5 or i7 based Mac mini, iMac or Mac Pro.
Recent MacBooks can be used for demonstration but are not supported by Caldera in Production !
PPC based hardware (G5, G4, ...) not supported !
System : OS 10.9+
RAM : 4GB or more. Minimum 1GB per core, recommended at least 2 GB per core.
HDD : 250GB
Monitor / Video card : 1280×1024 minimum resolution

Warning:

- Only Intel based Macs are supported with V9.
- A new version of macOS Mojave has been released. Do not update your OS. Caldera V11.2 build 180823 does not support this version.

Please refer to the following software OC compatibility for PC and Mac based Computer.

Linux	Version 10.2 161001	Version 11.2 180309	Version 12
Caldera Custom Kubuntu 8.04 Desktop i386-v2	x	x	x
Caldera Debian 1.1 x64	✓	x	x
Caldera Debian 2.x	✓	✓	x
Debian 8.6 (MATE desktop environment only)	x	✓	✓
Debian 8.8 (MATE desktop environment only)	x	✓	✓
Debian 9.5 (MATE desktop environment only)	x	x	✓

Mac OS	Version 10.2 161001	Version 11.2 180309	Version 12
OsX Server	x	x	x
10.7 Lion	✓	x	x
10.8 Moutain Lion	✓	x	x
10.9 Mavericks	✓	✓	x
10.10 Yosemite	✓	✓	x
10.11 El Capitan	x	✓	✓
10.12 Sierra	x	✓	✓
10.13 High Sierra	x	✓	✓
10.14 Mojave	x	x	✓

Legend

- Compatible : ✓
- Not compatible : x
- Currently delivered version : ✓