



# TS-1800: Site Preparation

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# 1 About This Guide

The information and requirements provided in this document ensure proper installation and operation of the Twine TS-1800 Digital Thread Dyeing system. The customer is responsible for:

- Preparing the site as described in this document.
- Complying with all applicable local regulations.
- Filling out and signing the Site Preparation Checklist.
- Sending the Site Preparation Checklist to your Twine representative.

If you have any questions about the information in this document, contact your Twine representative.

All site preparation requirements must be met before the installation date.

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## 2 Terms and Abbreviations

The following terms and abbreviations are used throughout this document:

Term / Abbreviation	Definition
A	Ampere
AC	Alternating Current
ASL	Above Sea Level
°C	degrees Celsius or Centigrade
°F	degrees Fahrenheit
ft	feet
kg	kilograms
lb	pounds
TS-1800	Digital Thread Dyeing system
VAC	Volts Alternating Current

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## 3 Physical Description

The TS-1800 comprises a single stand-alone unit, as shown in the figure below.



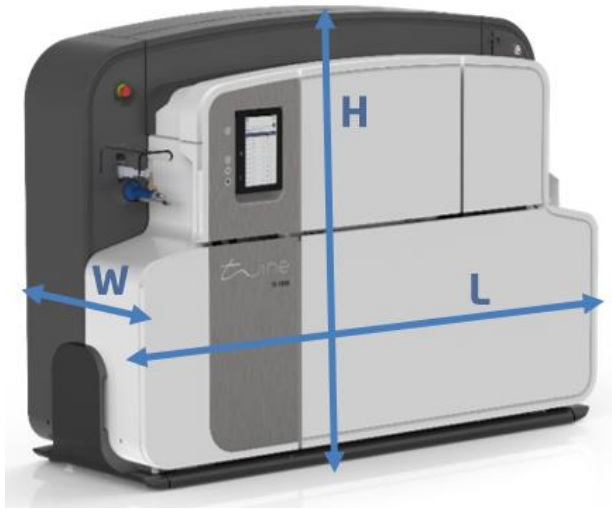
Figure 1 TS-1800 Digital Thread Dying System

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### 3.1 Size and Weight

The TS-1800 has the following main dimensions and weight:

- Length (L) 2.0 meters (79 inches)
- Width (W) 0.75 meters (30 inches)
- Height (H) 1.45 meters (57 inches)
- Weight 480 kg (1058 lb)



**Figure 2** TS-1800 dimensions definition

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## 4 Shipping and Delivery

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### 4.1 Shipping Pallet

The approximate size and weight of the TS-1800 system when mounted on a pallet is as follows:

- Length (L) 2.25 meters (89 inches)
- Width (W) 0.89 meters (35 inches)
- Height (H) 1.74 meters (69 inches)
- Weight 600kg (1323lb)

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### 4.2 Pallet Lifting Equipment

A forklift must be available for pallet lifting. It must be able to lift at least 600kg (1323 lb).

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### 4.3 Unpacking area

An unpacking area must be available. The area must enable sufficient clearance to lift the machine pallet and to unload the machine from the pallet.

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### 4.4 Transporting the System in a Building

Before entering the building with the system, identify the route you want to use to get the system to the installation site.

The site manager is responsible for ensuring that:

- all floors en route to the site installation area can handle the total weight of the system together with the transportation mechanism.
- the building infrastructure (such as the elevators) can handle the total weight of the system together with the transportation mechanism.

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## 5 Installation Area

### **IMPORTANT!**

If the TS-1800 is going to be located in an area that is **not** on ground floor level, it is important that you take note of the weight and dimensions of the machine. You must ensure that you are able use existing elevators to get the system to a higher floor level. If existing elevators are not suitable, you will need to make special arrangements to ensure that the TS-1800 can be lifted to the required floor level.

The installation area should be free of sources of vibration and electromagnetic interference that might affect the proper functioning of the TS-1800.

Locate the TS-1800 in an area with a level floor. The gradient of the floor should be less than 0.5% (5mm per meter).

The floor should be stable and must be able to bear the load of the TS-1800. The minimum floor load specification is 235Kg/m<sup>2</sup> (48lb/ft<sup>2</sup>).

Clearance around and above the TS-1800 should ensure convenient access and servicing.

The area around the TS-1800 must remain dry at all times.



## 5.1 Floor Plan

A sample floor plan is shown below, with the TS-1800 placed in a likely operating area. The dimensions shown in the figure are minimum clearance requirements.

**Note**

The floor where the machine is located should be non-carpet and easy to clean.

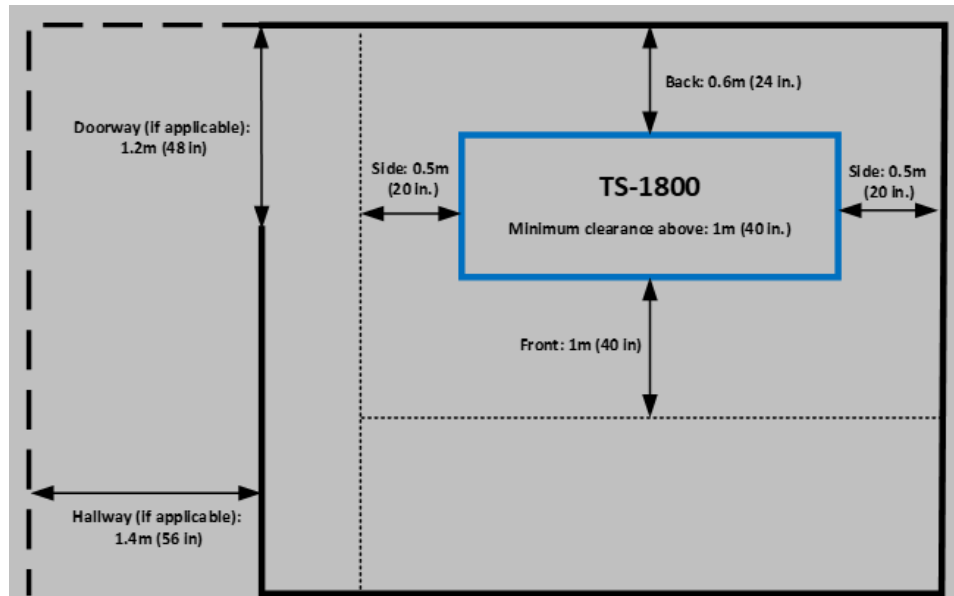


Figure 3: Floor plan sample (not to scale)

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## 6 Electrical Requirements

The customer is responsible for ensuring that all tasks described in this section are performed by qualified personnel.

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### 6.1 Power

A stable, reliable source of power is necessary. Power to the TS-1800 is supplied via a standard wall socket.

**TS-1800 power rating:**

Total power consumption is 3KW.

Power Supply:

200 to 240 VAC 50 to 60Hz, 15A, single phase. The wall outlet socket to be your in-country standard.

Or:

200 to 240 VAC 50 to 60Hz, 15A, dual-phase, NEMA6-15 outlet for the USA.

If the power at your facility does not support the above specifications, contact your Twine representative.

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### 6.2 Grounding

The TS-1800 is grounded through a single-phase, AC plug. Make sure that the AC socket used is correctly grounded in accordance with local electrical codes.

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### 6.3 Circuit Breaker

A circuit breaker must be installed according to local regulation requirements.

We recommend using a circuit breaker that is dedicated to the applicable power socket.

An adjustable trip circuit breaker rated at 16A FLA (20A Trip) 240VAC, or 20A fixed trip type may be used.

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### 6.4 Residual Current or Earth Leakage Device

We recommend using a wall socket that is connected through a residual current or earth leakage device.

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## 6.5 Power cable

The power cable cord that supplies the machine comes without a power plug to enable global compatibility. A plug should be assembled by a qualified local electrician only, and according to the safety regulations in your country.

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## 7 Network

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### 7.1 Network Connections

The TS-1800 should be located in an area with access to a strong Wi-Fi signal, and connected to the network via a LAN communication connection.

Minimum Internet Speed: 40mb

To enable software upgrades and online support, the following ports 80, 1080 and 443 must be open (outside):

- 80
- 1080
- 443

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## 8 Environmental Conditions

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### 8.1 Temperature, Humidity and Altitude

The temperature and relative humidity environmental conditions for the TS-1800 must be maintained within certain limits, according to the following table:

Parameter	Specification
Operating temperature	10°C to 30°C (50°F to 86°F)
Non-operating temperature	5°C and 50°C (41°F and 122°F)
Relative humidity	20% to 60%

Operating altitude must be  $\leq 3000\text{m}$  ASL.

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### 8.2 Air Quality

The TS-1800 should be located in a room with adequate ventilation. Typically, this means locating the TS-1800 in an airconditioned area where the air is replaced at least four (4) times per hour.

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### 8.3 System Environmental Specifications

- Indoor use
- Overvoltage Category II
- Pollution degree 2
- Maximum sound level: ° 65 dB

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## 9 Accessories and Utilities

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### 9.1 Start-Up Kit

The TS-1800 comes supplied with a start-up kit which includes tools and accessories. Make sure that your start-up kit is available during installation and operation.

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### 9.2 Fire Safety Equipment

Use only gas-based fire extinguishers in case of fire.

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### 9.3 Cleaning the System

All parts of the system can be cleaned using one the following materials:

- Isopropyl alcohol, technical grade
- Ethanol, 99.9% technical grade

We recommend keeping a gallon of one of these materials on site at all times.

#### **IMPORTANT!**

Safety gloves **must** be worn when cleaning the system. Safety gloves are supplied with the system.

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### 9.4 Inputs and Outputs

The following input/output connections are required:

- One electrical power socket as described in sections 6.1
- One network LAN connections
- Wi-Fi connection

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## 10 Materials Handling and Storage

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### 10.1 Ink Cartridges

The following storage requirements are important for ink cartridges:

- Store ink cartridges in a dedicated cabinet.
- Ink cartridges should be stored upright on trays.
- Keep the temperature of the storage area between 5°C and 50°C (41°F and 122°F).
- Ensure that the humidity range of the storage area falls between 10% and 70%.
- Ink cartridges may be used only up to the expiration date specified on the cartridge.

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### 10.2 Waste Cartridges

- It is recommended that waste cartridges are stored separate from ink cartridges.
- Dispose of waste cartridges in accordance with local laws and regulations.

# 11 Customer Information

Please fill in the information requested below and send it to your Twine representative.

When your Twine representative approves your checklist, he will schedule the system installation.

If you have any questions, consult your Twine representative.

## 11.1 Customer Details

Company name: \_\_\_\_\_

Company address: \_\_\_\_\_

Company telephone no. \_\_\_\_\_

Company email address: \_\_\_\_\_

## 11.2 Site Preparation Checklist

Item	Meets Requirements		Notes
	Yes	No	
Personnel available for training			
Forklift and unloading area			
Floor requirements			
Access to installation location			
Power requirements			
Circuit breaker			
Grounding			
Power plug			
Communication line			
Wi-Fi (recommended)			
Environmental conditions			



Item	Meets Requirements		Notes
	Yes	No	
Ventilation			
Fire extinguisher			

I understand that non-compliance with the requirements specified in this document may result in additional installation charges.

Full name: \_\_\_\_\_

Company signature: \_\_\_\_\_

Date: \_\_\_\_\_