

## OPERATOR'S GUIDE

### Centrifuge



#### Covering Serial Numbers

1933/19/1000

& upwards.

Published by:

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# JAMES HEAL

At James Heal, we are dedicated to designing and developing high precision testing instruments and test materials for physical and colour fastness testing. Our worldwide Service and Calibration division and expert technical assistance complement our product range, adding real value to your laboratory testing activities.

## Setting the Standard

We are committed to forming close relationships and have established numerous partnerships within the textile industry, from trade and standards organizations, to test houses, customers and distribution partners.

With a heritage spanning more than 140 years, we have evolved and grown through a culture of continuous improvement, resulting in a thorough understanding of the applications, operating conditions and requirements of customers worldwide – from independent testing laboratories and test houses, to fabric suppliers, manufacturers and retailers.

Using knowledge and expertise, we consistently set the industry standard through product innovation and technology, with customer and user needs, present and future, driving our technological advancements. You can be assured that with James Heal, you will always receive the highest levels of product quality and customer service. We have Agents and Distribution partners all over the globe, ensuring locally available product whenever, and wherever you need it.

## Areas of Expertise

### Textile: Colour Fastness

- Chlorinated Water
- Dry Cleaning
- Dry Heat
- Hot Pressing
- Laundering
- Light
- Perspiration
- Phenolic Yellowing
- Print Durability
- Rubbing
- Washing
- Water

### Textile: Physical

- Abrasion
- Bursting Strength
- Compression and Puncture
- Crease and Wrinkle Recovery
- Crimp
- Drape
- Durability
- Flammability
- Mass per unit area
- Pilling and Fuzzing
- Security of Attachments
- Seam Slippage
- Shrinkage
- Snagging
- Spray Rating
- Stretch and Recovery
- Surface Deterioration
- Tear Strength
- Tensile Strength
- Washing and Drying

### Non-Textile

- Bursting strength of nonwovens, plastics, paper and medical products
- Micro-scratching of laminates, wooden, painted, automotive and high gloss surfaces
- Physical and colour fastness testing of leather
- Rubbing fastness of laminates and wooden surfaces
- Tear strength of paper and plastic

# 1. INTRODUCTION

## 1.1. Centrifuge

*Centrifuge* is an instrument, which can be used to separate water from a test specimen.

Please read this operators guide before commencing installation and use of the Centrifuge instrument.

## 1.2. Features & Benefits

- Compliant with BS EN 29865 : 1993 / ISO 9865 : 1991

## 1.3. Service & Calibration

- Worldwide Service
- ISO 17025 based calibration service
- 18 Months' Warranty

## 1.4. Technical Assistance

- Operator training
- Knowledge transfer
- Applications support
- Engineering support

## 1.5. Standards

- BS EN 29865 : 1993 / ISO 9865 : 1991

## 2. GENERAL INFORMATION

### 2.1.

Manufactured by:  
James Heal™

Richmond Works  
Lake View  
Halifax  
HX3 6EP

Telephone No: 01422 366355

This manual is valid for the James Heal™ Centrifuge.

This manual covers the operation and day to day maintenance for the James Heal™ Centrifuge. It has been written and illustrated using the best possible information at the time of publication. The manual should be regarded as part of the equipment and should be kept with it throughout its working life.

Any difference between the manual and the equipment reflect improvements introduced after the publication of the manual. Any amendments received should be recorded below and incorporated in the relevant part of the manual.

Changes, technical inaccuracies and typographical errors will be corrected in subsequent revisions.

As part of our policy for continuous product development and improvement, James Heal™ reserves the right to make changes in design and specification without notice.

### 2.2. Revision History

See front cover for Publication number, e.g., 290-1523-1

Revision	Date	Originator	Details Of Revision
A	20/11/19	AC	Op Guide Created
B	14/07/20	SEW	USB port info added

## 2.3. General Description and Use of Equipment

*Centrifuge* is an instrument, which can be used to separate water from a test specimen. It has been specified to be compliant with the test procedure of BS EN 29865 : 1993 / ISO 9865 : 1991.

**Warning:** The equipment must not be used for any purpose other than for that which it was intended.

## 3. SAFETY AND ENVIRONMENTAL PROTECTION SUMMARY

Note: All operators and customer maintenance personnel should familiarise themselves with this manual before using or servicing the equipment.

### 3.1. Safety Summary



#### **Rotating & Moving Parts – Warning**

The centrifuge plate spins at a high speed, the plate should never spin when the lid is open and will automatically stop spinning when the lid is lifted.

Do not attempt to override safety mechanisms in place to stop the plate spinning when exposed.



#### **Crush & Entanglement – Warning**

Be wary when lowering the centrifuge lid, ensure hands and loose clothing are clear of the centrifuge bed, preventing trapping, entanglement or crushing.



#### **Water – Warning**

Ensure water drained from the centrifuge water outlet is drained into a suitable container. Not directly onto the floor or work top.



#### **Electric Shock – Warning**

No access to the internal workings of the centrifuge by operators, only by qualified and trained personnel. If users see exposed or damaged power cable do not use or touch the instrument and immediately seek technical assistance.

Mains switch is located on the rear of the machine.



#### **Access – Warning**

Do not allow general access to Centrifuge only to those competent and trained personnel. Centrifuge should be stored in a controlled environment where only authorised personnel have access.



#### **Manual Handling – Warning**

Avoid lifting or moving the test equipment without relevant manual handling training.

### **Warranty – Warning**

Do not attempt to gain access to the internal workings of the centrifuge, if tampered with this will invalidate your warranty.

Note: The equipment must only be operated in an environment with adequate lighting with no shadow or stroboscopic effects.

## **3.2. Safety Precautions**



### **Warning**

***Always observe the following safety precautions.***

Ensure electrical outlet is dedicated (no other equipment on the same circuit breaker).

Only the voltage indicated on the unit.

Serial No/Rating Plate is connected to the unit.

It is recommended that the mains electrical isolation switch be lockable and located in a visible position.

Do not operate instrument with a damaged power cord until it has been examined and repaired by an authorised service representative.

Ensure power cord is protected from contact with hot surfaces.

The power cord must not be subject to foot or machine traffic and must not be placed on the floor without adequate protection.

Do not use an extension cord.

Do not defeat or bypass built-in equipment safety features.

Any maintenance, servicing or adjustments must only be carried out by suitably skilled or properly instructed/supervised personnel.

Wear appropriate Personal Protective Equipment (PPE) when performing regular testing tasks and performing maintenance.

## **3.3. Operator Safety**

Always isolate from the electrical supply before carrying out authorised maintenance work on the machine.

Access to the main electrical power isolator must not be obstructed.

The area around the machine should be kept clean, dry and clear of any waste material.

Any maintenance, servicing or adjustments must only be carried out by suitably skilled or properly instructed / supervised personnel.



## Customer Responsibilities

### 3.3.1. Cleaning & Maintenance

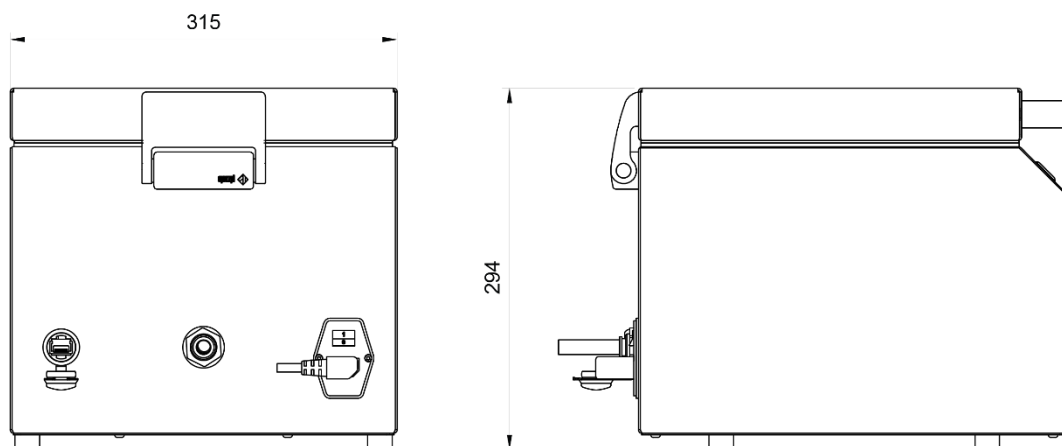
Cleaning and maintenance should only be carried out by trained/competent personnel.

Correct PPE for cleaning needed to prevent burns to skin and eye damage when using cleaning agents.

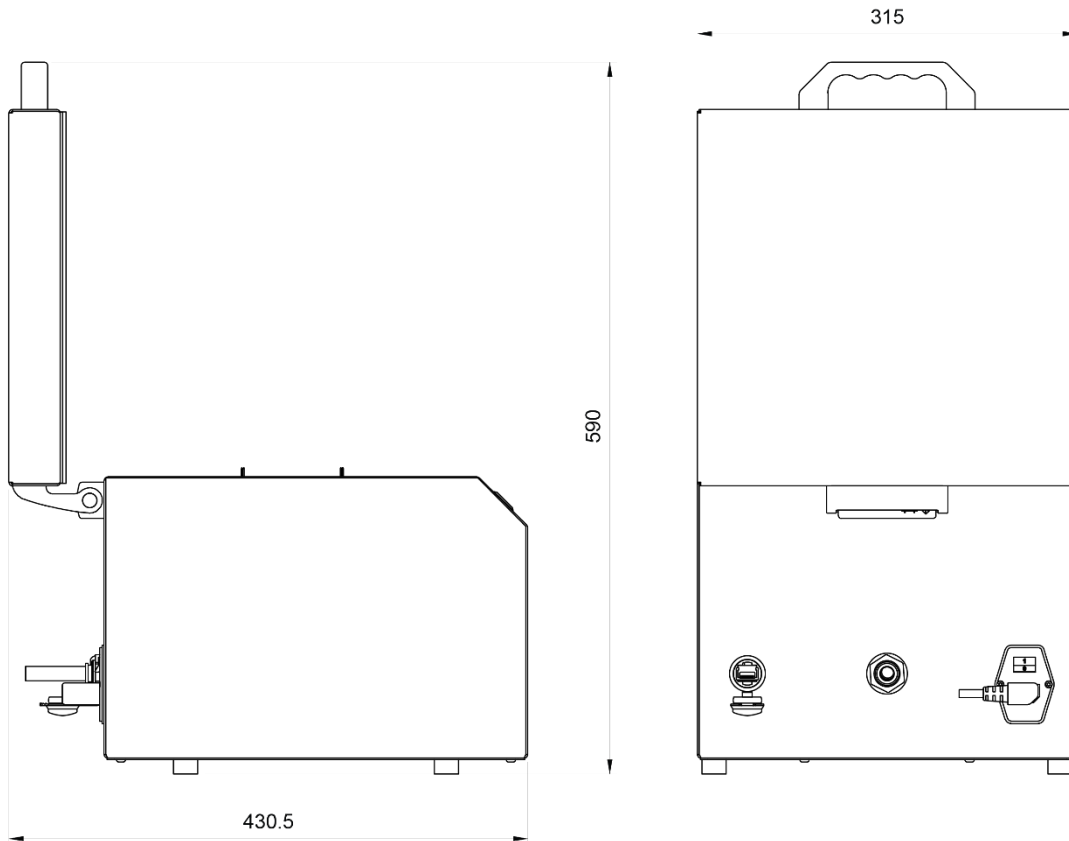
## 4. INSTRUMENT SPECIFICATION

James Heal™ Centrifuge	
Instrument W x D x H (mm / inches)	Lid Open W 315 x D 430.5 x H 590mm W 12.4 x D 16.95 x H 23.2"  Lid Closed W 315 x D 430.5 x H 294mm W 12.4 x D 16.95 x H 11.6"
Weight (kg / lbs)	14.38 kg 31.70 lbs
Electrical Requirements	Voltage: 100-240V Frequency: 50/60Hz Current: 0.5A

### Centrifuge Lid Closed



## Centrifuge Lid Open



## 5. PRE-INSTALLATION

### 5.1. Preinstall Checklist

The centrifuge is a heavy instrument. Take care when moving the centrifuge to its final use location.

1. The final location of the Centrifuge has a weight bearing capacity of at least 20 kgs.
2. The final location is set at a usable access height for users to load the specimen.

## 5.2. Customer Responsibilities

The James Heal™ Centrifuge will be shipped in one crate, if ordered as a standalone instrument. The contents of which will need transporting to the install site by you, James Heal or associated agent.

We advise all installers to be familiar with standard manual handling procedures.

Prior to installation check content of delivery using with reference to Unpacking section 6.2.

### **General responsibilities include:**

Providing James Heal with delivery instructions.



Having the necessary equipment and/or personnel for unloading the delivery vehicle and moving the equipment to its final site.

Preparing the installation site prior to the arrival of the instrument.

## 5.3. Delivery



### **Personnel**

Provide personnel for unloading, unpacking and transferring the equipment.

### **Clearance**

Check the delivery route and remove all obstructions.

### **Unit**

Minimum Width: 315mm

Minimum Height: 294mm

Minimum Depth: 430.5mm

Weight: 14.38kg

## 5.4. General Planning

### **Electrician**

Have an electrician available to provide the necessary wall outlets, prior to installation.

## 5.5. Area Planning

### **Room Layout**

Provide adequate space for installing and operating the equipment. A minimum of 1000mm/39.4" in front of the machine is recommended.

### **Work Surface**

Provide a stain and chemical resistant work surface for ease of cleaning.

### **Work Surface Level**

The work surface should be flat and level in both directions.

### **Work Surface Load-Bearing Capacity**

The work surface must be capable of supporting the operating weight of the equipment.

## 5.6. Electrical

Note: The electrical installation should conform to the codes and requirements of the country or locality in which the equipment is to be installed.

### 5.6.1. Electrical Specifications

Voltage: 100-240V  
Frequency: 50/60Hz  
Current: 0.5A

### 5.6.2. Power Cord

The equipment is provided with a 2 meter long power cord for EURO, US and UK mains.

## 6. INSTALLATION

### 6.1. Receiving Inspection

Your James Heal™ Centrifuge was carefully inspected and tested prior to shipment. Upon its arrival, inspect the crate for damage. Unpack the machine as soon as possible and conduct a thorough examination of the unit and its components. Do this in the presence of the carrier if at all possible. If damage is noted, take photographs of the damaged portions and immediately file a claim with the carrier. NOTE: If the carrier is not notified within 48 hours of delivery, they cannot be held responsible.



#### Warning

Beware of sharp edges, splinters, pinch points, exposed nails and staples when unpacking. Wear leather gloves.



#### Warning

Wear safety shoes, glasses and gloves when unpacking the equipment. Beware of sharp edges, splinters, pinch points, exposed nails and staples.

### 6.2. Unpacking

#### 6.2.1. Unpacking Checklist

List of components/assemblies that will be delivered:

Stock Code	Item name	Quantity
794-350	Centrifuge	1
142-326	Mains Lead Angled (US, EURO, UK)	1

## 6.3. Moving the machine



### Warning

Personal Protective Equipment must be worn, safety shoes and non-slip gloves.



The equipment is heavy. Use sufficient personnel and/or lifting devices for its movement. Provide the necessary equipment, taking note of the centre of gravity to ensure the lift is effected in a safe manner.

Provide adequate space for installing and operating the equipment.

The floor and work surface must be flat and level and capable of supporting the operating weight of the equipment.

## 6.4. Installation Procedure

Ensure the Centrifuge is placed on an appropriate supported work surface at the right height for operatives to load test samples.

## 6.5. Connections Preparation

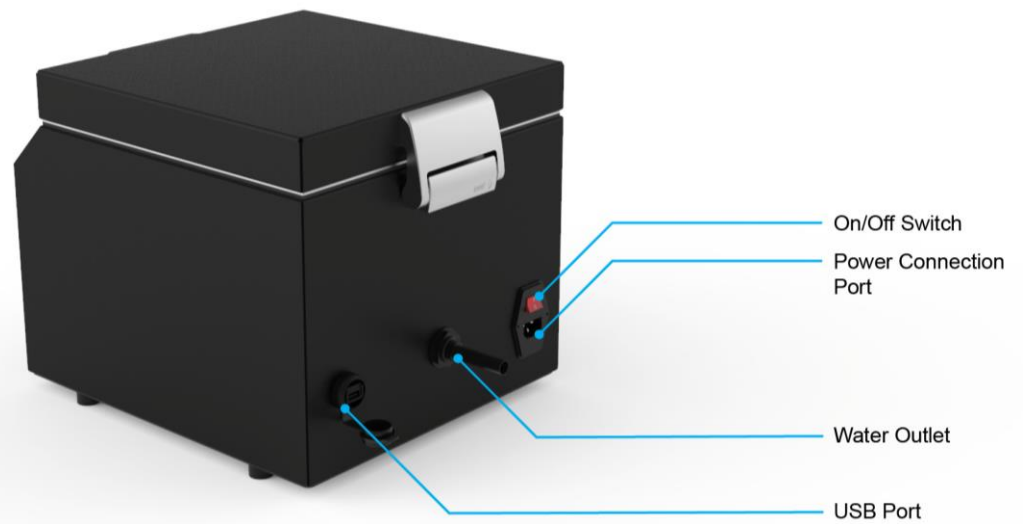
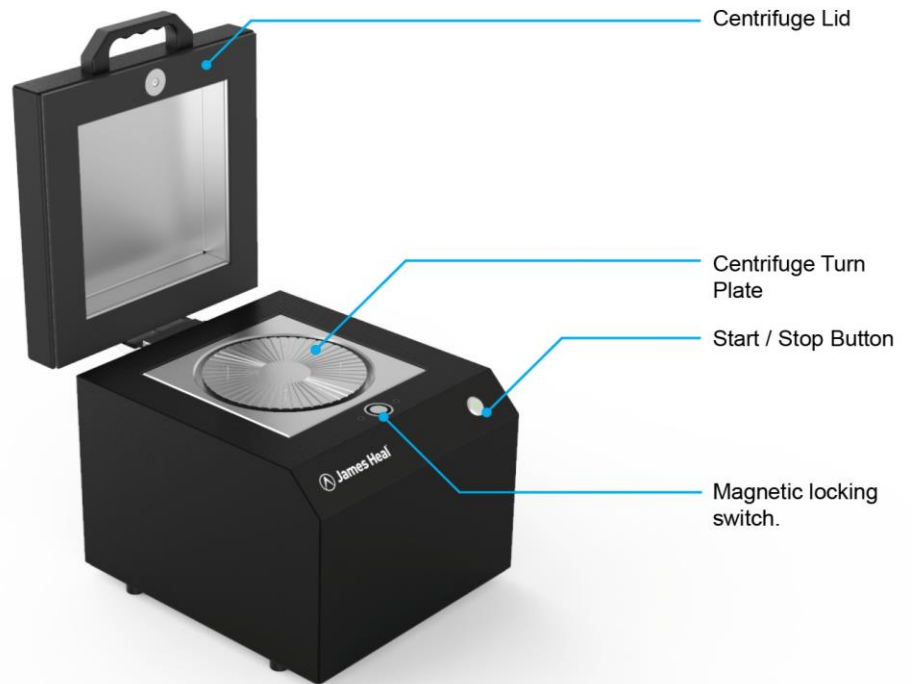
### 6.5.1. Electrical

- Stand the instrument on a firm and level surface.
- Connect the electrical power supply to the mains input using the lead provided.

The power rating for **Centrifuge** is:

- Voltage: 100-240V
- Frequency: 50/60Hz
- Current: 0.5A

## 7.PRODUCT OVERVIEW

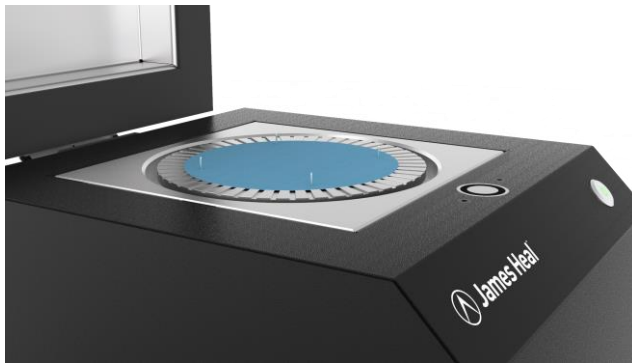


## 8. OPERATION

1. Ensure the machine is switched on (the on/off switch is located at the back of the machine).
2. Open the machine by raising the handle on the lid.



3. Place test specimen onto the turn plate, aligning centrally using the fabric pins affixed to the surface of the turn plate. Ensure the specimen is flat against the turn plate.



4. Close the lid.
5. To start the machine, press the start/stop button located on the front of the machine. The centrifuge will run for 15 seconds plus the required time to attain the speed of 700rpm and stop, in accordance with BS EN 29865 : 1993 / ISO 9865 : 1991. *If for any reason you would like to stop the procedure before the spin cycle has been completed press the stop/start button again and this will stop the centrifuge.*



6. Once the centrifuge has completed its cycle the lid lock will be released and you will be able to remove the sample from the turn plate.
7. If testing in accordance to BS EN 29865 : 1993 / ISO 9865 : 1991, weigh the specimen to an accuracy of 0.01g, recording this result as wet mass  $m_2$ .

## 9. FAULT FINDING

Fault	Probable Cause	Action
The equipment does not power on.	No power supply to equipment.	Check if plug is connected Check if power is switched on

### Warning

If the above action does not resolve the problem or the problem is not listed, switch off the unit and call a qualified technician for assistance.

## 10. SERVICE & CALIBRATION

James Heal Service & Calibration is a totally comprehensive, worldwide support programme. When you buy instrumentation from us, it is the beginning rather than the end of an association.

Our aim is simple:

To provide precisely the services you need to maintain and protect the value of your investment.

For any enquires you may have regarding your instrument please contact James Heal Service & Calibration by phone.

In all communications please quote the serial number of your instrument and the software version number, e.g., 1616/16/1001 and V1.00.

James Heal Service & Calibration contact details:

Telephone +44 (0) 1422 366355

### 10.1. Software

Please contact your installer or agent regarding software updates, or if you experience any bugs with your software. The USB port on the back of the instrument is used for updates.