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# RANSOM & RANDOLPH

Instruction Manual

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## Neycraft™

### Multizone™ duplicating unit



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    Made in the USA

Ransom & Randolph GmbH  
Leipziger Straße 40 | 04571 Rötha Germany  
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# NEYCRAFT™ MULTIZONE™ DUPLICATING UNIT

Thank you for choosing the Neycraft Multizone duplicating unit.

All Neycraft duplicating units and centrifugal casting machines, alongside R&R's Vulcan® burnout furnaces, are proudly made 100% in the USA. Please read the following information before using this product.

## Product Introduction

The Neycraft duplicating unit is an innovative and user-friendly unit capable of meeting the changing needs of your lab as workflow increases and decreases. The Neycraft duplicating unit features smart capabilities to work with variable capacities (1, 2, or 3 gallons) of material, monitoring the temperature throughout the cycle to decrease the chance of materials burning. This unit gives the user complete temperature control, allowing the user to input their desired melting temperature, idle temperature, and hold time. The Neycraft duplicating unit will run a complete cycle and return to holding temperature within 3 hours. The Neycraft duplicating unit offers precise and reliable operation as well as an automated power saving on/off feature for extended motor life and advanced safety features, such as a safety switch to prevent fire, damage, and/or injury. The Neycraft Multizone duplicating unit comes preprogrammed and ready-to-use with the ability to adjust features easily.

For detailed instructions on how to set up and operate your Neycraft Multizone duplicating unit, please read this manual. If you have any questions, contact the R&R technical department at 800.800.7496 or [technical@ransom-randolph.com](mailto:technical@ransom-randolph.com).

## Product Features

- Complete user temperature control
  - Allows the user to input desired unit of measure (°C or °F), melting temperature, idle temperature, and hold time.
  - Will run a complete cycle and return to holding temperature within 3 hours.
  - Includes a power saving feature, automatically starting/stopping after reaching desired holding temperature, extending the motor life.
- Smart capability to work with variable capacities
  - Capable of melting flexible capacities of 1, 2 or 3 gallons of material.
  - Allows the user to input desired level of colloid, creating less waste.
  - Has the ability to monitor the temperature throughout the cycle to ease into the target temperature, decreasing the chances of burning.
- Advanced safety features
  - Includes a safety switch, automatically turning the mixer off if the lid is raised, preventing fire, damage, and/or injury.
  - The power input includes a detachable power cord that will not get tangled, ensuring the user can have a clean, organized workspace free from clutter.

## Product Specifications

- **Model Number:** 535631000
- **Capacity:** 1, 2, or 3 G (7.6, 9.5, or 11.4 L)
- **Size**
  - **Dimensions:** 23" L x 17.5" W x 22" H (60.96 cm L x 44.45 cm W x 55.88 cm H)
  - **Weight:** 75 LB (34 KG)
- **Electric**
  - **Voltage:** 110 V
  - **Current:** 13.5 A
  - **Power:** 1,620 W
  - **Frequency:** 50/60 Hz



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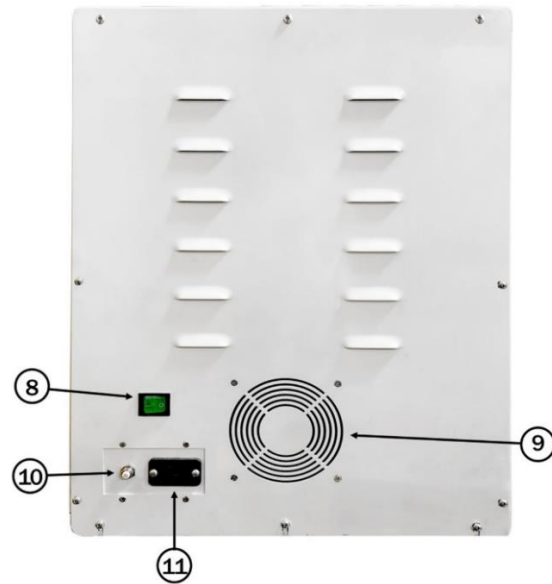
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## Basic Equipment Layout



### Front

- ① Melting pot & lid
- ② Safety switch
- ③ Spout/Dispensing valve
- ④ Display window
- ⑤  Menu control button
- ⑥  Adjust temperature/time down control button
- ⑦  Adjust temperature/time up control button

### Back

- ⑧ Power switch
- ⑨ Cooling fans (located on back and side of unit)
- ⑩ 15-amp circuit breaker
- ⑪ Power input for detachable power cord

## Factory Presets

Temperatures for the Neycraft Multizone duplicating unit are preset at the factory in Celsius at 180 °F (82 °C) for melting and 122 °F (50 °C) for idle with a ten-minute hold time. These settings can be manually changed to accommodate your needs. See instructions for Adjusting the Units of Measure and Activating the System Temperature Setting (under Set-Up Instructions) below.

## Set-Up Instructions

1. Carefully unpack and remove all packing materials from around and inside the machine.
2. Place the machine on a level surface suitable to hold the weight of the machine and its contents.  
**NOTE:** The machine and its contents get HOT and should be placed in a heat safe location to avoid fire, damage, or injury.
3. Plug the machine into a surge protector that is connected to an outlet.
4. Set the clock (see instructions for Setting the Clock below).
5. If necessary, adjust the units of measure to/from °C or °F (see instructions for Adjusting the Units of Measure below).
6. Adjust the colloid levels (see instructions for Adjusting the Colloid Level below).
7. Activate the system temperature setting (see instructions for Activating the System Temperature Setting below).



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## Setting the Clock

1. Start from HOME
2. Push the MENU button. The screen will display MELT TEMP and IDLE TEMP settings.
3. Push the MENU button again. The screen will display MODE, SETUP, and CLOCK selection.
4. Select CLOCK with the UP/DOWN buttons and push the MENU button.
5. DATE will be displayed. Modify DATE, select SETUP, and push the MENU button. To skip modifying DATE, select EXIT.
  - a. Adjust MONTH with the UP/DOWN buttons and lock the setting by pushing the MENU button.
  - b. Adjust DAY with the UP/DOWN buttons and lock the setting by pushing MENU button.
  - c. Adjust YEAR with the UP/DOWN buttons and lock the setting by pushing MENU button.
6. CLOCK will be displayed. Modify CLOCK, select SETUP, and push the MENU button. To skip modifying CLOCK, select EXIT.
  - a. Adjust HOUR with the UP/DOWN buttons and lock the setting by pushing the MENU button.
  - b. Adjust MINUTE with the UP/DOWN buttons and lock the setting by pushing the MENU button.
  - c. Adjust YEAR with the UP/DOWN buttons and lock the setting by pushing the MENU button.

## Adjusting the Units of Measure (°C or °F)

1. Starting from HOME.
2. Push the MENU button. The screen will display MELT TEMP and IDLE TEMP settings.
3. Push the MENU button again. The screen will display MODE, SETUP, and CLOCK selection.
4. Select MODE with the UP/DOWN buttons and push the MENU button.
5. Use the UP/DOWN buttons to select °C or °F.
6. Save setting by pressing the MENU button.  
**NOTE:** Units of measurement changes will only take effect when unit is NOT currently trying to run a profile.

## Adjusting the Colloid Level

**NOTE:** Failing to program the correct level of colloid level could result in burning of residual material on melting pot sidewalls.

1. Starting from HOME.
2. Push the MENU button. The screen will display MELT TEMP and IDLE TEMP settings.
3. Push the MENU button again. The screen will display MODE, SETUP, and CLOCK selection.
4. Select MODE with the UP/DOWN buttons and push the MENU button.
5. Push the MENU button to reach the level adjustment setting.
6. Use the UP/DOWN buttons to set the proper gallon level based on the amount of colloid you are using.
7. Save setting by pushing the MENU button.

## Activating the System Temperature Setting

1. Starting from HOME.
2. Push the MENU button. The screen will display MELT TEMP and IDLE TEMP settings.
3. Push the MENU button again. The screen will display MODE, SETUP, and CLOCK selection.
4. Select SETUP with the UP/DOWN buttons and push the MENU button.
5. Adjust MELT TEMP with the UP/DOWN buttons and lock the setting by pushing the MENU button.
6. Adjust IDLE TEMP with the UP/DOWN buttons and lock the setting by pushing the MENU button.
7. Adjust HOLD TIME with the UP/DOWN buttons and lock the setting by pushing the MENU button.  
**NOTE:** The amount of time is displayed as HOUR:MINUTE. The proper display for a ten-minute hold is 00:10.
8. Select RUN or OFF by using the UP/DOWN buttons and lock the setting by pushing the MENU button.
  - a. If RUN is selected the system will Pre Heat.
  - b. If OFF is selected the system will Stop.



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## Operating Instructions

1. Fill the melting pot using the appropriate product melting procedures. DO NOT allow material to exceed over the fill line.

### Using pre-mixed duplicating material

- Ensure the material is well chopped into uniform pieces to facilitate proper melting.

### Using duplicating material concentrate

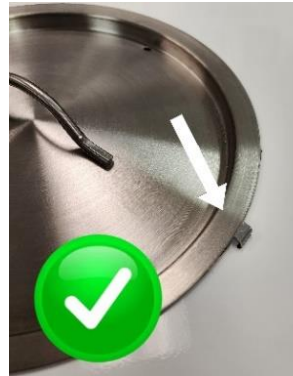
- Take care to add the correct amount of water to the concentrated material.

**NOTE:** The fill line marks the maximum amount of material needed for 3 gallons of colloid.



2. Ensure the lid is securely in place resting over the safety switch.

**NOTE:** The machine will not operate without the safety switch securely in place by being held down by the lid. See correct placement below.



3. Switch the power on. To avoid serious bodily injury, never place fingers or hands into the machine while it is turned on.
4. Use controls to adjust the amount of material you wish to use. See instructions for Adjusting the Colloid Level (under Set-Up Instructions) above.  
**NOTE:** Failing to program the correct level of colloid level could result in burning of residual material on melting pot sidewalls.
5. Activate the system temperature setting to input melt temperature, idle temperature, and hold time. Select RUN for the machine to begin preheating. See instructions for Activating the System Temperature Setting (under Set-Up Instructions) above.
6. The machine will begin heating and stirring. The machine will then heat to the melting temperature. Once the Neycraft Multizone duplicating unit reaches the melting temperature, it will hold at this temperature for hold time selected and then will automatically begin cooling down using fans to reach the holding temperature. The Neycraft Multizone duplicating unit will manage the temperature control accordingly to prevent materials from burning.  
**NOTE:** The process of chopping, melting, and cooling takes about 2½-3 hours to complete.  
**NOTE:** In case of a power outage, colloid will need to be re-chopped and you will need to restart the melting process.
7. Once the melt cycle is complete, move the dispensing knob to open the spout and allow the melted colloid to flow. After dispensing the desired amount of colloid, move the dispensing knob back into place.
8. Activate the system temperature setting to stop machine. Select OFF for the machine to stop. See instructions for Activating the System Temperature Setting (under Set-Up Instructions) above.  
**NOTE:** Never turn off the unit unless changing the material.



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## Function of this Unit

### System Operating Stages

- Stop system off, ready to run a heating profile
- Pre Heat system on, heating, and mixing, 1<sup>st</sup> stage of profile
- Heating system on, heating, and mixing, 2<sup>nd</sup> stage of profile control to MELT temperature
- Hold system on, heating as required, and mixing, 3<sup>rd</sup> stage of profile control to MAINTAIN temperature
- Cooling system on, cooling, and mixing, 4<sup>th</sup> stage of profile control to IDLE temperature
- Idle system on, cooling, heating, and mixing, 5<sup>th</sup> stage of profile hold IDLE temperature

### Heat Source Utilization

- 3 gallons bottom heat source and side heat sources active throughout process
- 2 gallons bottom heat source active throughout process, side heat sources active while melting
- 1 gallon bottom heat source active throughout process

## Safety Information

**Warning:** It is strictly prohibited to disassemble the box body of the equipment and change the circuit of the equipment without the guidance of the R&R technical department. Unless advised to do so by both an R&R sales manager and technical representative, please do not touch the inner workings of the machine.

### Special Attention Items

1. The colloid should NOT exceed the fill line marked inside the tank as it will cause overflow.
2. The power supply must be grounded effectively for your safety.
3. This manual is for equipment operation reference only. Due to software upgrades and structural optimization, changes may occur without warning.



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