



TRAINING UPDATE

Lab Location: SGAH & WAH
Department: Processing

Date Distributed: 1/2/2013
Due Date: 1/31/2013

DESCRIPTION OF PROCEDURE

Name of procedure:
Hettich Rotina 420 and Universal 320 Centrifuge Operation WAH.L49, SGAH.L51 v000
Description of change(s):
New SOP to describe basic Centrifuge operation

Document your compliance with this training update by taking the quiz in the MTS system.

Approved draft for training all sites (version 000)

Non-Technical SOP

Title	Hettich Rotina 420 and Universal 320 Centrifuge Operation	
Prepared by	Ashkan Chini	Date: 9/18/2012
Owner	Robert SanLuis	Date: 9/18/2012

Laboratory Approval		
Print Name and Title	Signature	Date
<i>Refer to the electronic signature page for approval and approval dates.</i>		
Local Issue Date:		Local Effective Date:

12 month (or new) management review and approval: Signature acknowledges SOP version remains in effect with NO revisions.		
Print Name	Signature	Date

TABLE OF CONTENTS

1. PURPOSE.....	3
2. SCOPE	3
3. RESPONSIBILITY.....	3
4. DEFINITIONS.....	3
5. PROCEDURE.....	4
6. RELATED DOCUMENTS	5
7. REFERENCES	6
8. REVISION HISTORY.....	6
9. ADDENDA AND APPENDICES.....	6

1. PURPOSE

To outline the programming process for the Hettich Rotina 420 and Universal 320 centrifuges.

2. SCOPE

This procedure applies to all Core Laboratory and Processing personnel working with the Hettich Rotina 420 and Universal 320 Centrifuges.

3. RESPONSIBILITY

Core Laboratory and Processing personnel are responsible for performing and complying with this procedure.

4. DEFINITIONS

None

5. PROCEDURE

A. Lid

1. **Opening the lid:** The lid can only be opened when the centrifuge is switched on and the rotor is at rest.
2. **Closing the lid:** Place the lid and lightly press down the front edge of the lid.

B. Programming

Programs 1, 2 and 3 are set for normal use:

Hettich Rotina 420 with 178 mm radius at Shady Grove Adventist Hospital

Program #	Speed	Time	Use
1	4500 RPM (4029g)	5 min	routine blood specimens, CSF, Bloody CSF, Urine Chem. and Urine Tox
2	1418 RPM (400g)	5 min	back up for urinalysis
3	2746 RPM (1500g)	15 min	for XPTCA/XPTSA/Antithrombin III

Hettich Universal 320 with 140 mm radius at Washington Adventist Hospital

Program #	Speed	Time	Use
1	4500 RPM (3170g)	5 min	routine blood specimens, CSF, Bloody CSF, Urine Chem. and Urine Tox
2	1610 RPM (400g)	5 min	back up for urinalysis
3	3100 RPM (1500g)	15 min	for XPTCA/XPTSA/Antithrombin III

Hettich Universal 320 with 141 mm radius at Washington Adventist Hospital

Program #	Speed	Time	Use
1	4000 RPM (2520g)	7 min	routine blood specimens, CSF, Bloody CSF, Urine Chem. and Urine Tox
2	1610 RPM (400g)	5 min	back up for urinalysis
3	3090 RPM (1500g)	15 min	for XPTCA/XPTSA/Antithrombin III

If for any reason there is a need to spin a specimen at a certain speed and time, use the following instructions:

Note: If no key is pressed for **8 seconds** after the selection or during the input of parameters, the previous values will be shown in the display.

1. Press on the “PROG” button.
2. Use the knob to change “STO1, STO2 or STO3” to any number except 1, 2 or 3. Example, choose STO4 or higher. Then press “START”.
3. Use this step only if the requested speed is in RPM.

To adjust RPM, press the “RPM” button. Use the knob to change the RPM (adjustable in increments of 10). Then press the “RPM” button again to get back to the main screen.

4. Use this step **only** if the requested speed is in RCF (g).
To adjust RCF, press the “RCF” button.
 - SGAH on both centrifuges: **Always set the RAD (radius) to 178mm.**
 - WAH Serial Numbers: **0000694-04-00 and 0000681-04-00 always set the RAD to 140mm.**
 - WAH Serial Numbers: **0000171-01-00 always set the RAD to 141mm.**

Press RCF until the “< >” sign moves to RCF side, use the knob to adjust RCF (adjustable in increments of 1). Press RCF again to get back to the main screen.

5. To adjust the TIME, press the “TIME” button to get to the time screen, use the “TIME” button to move the “< >” sign to hour, minute or second. Adjust time using the knob. Then press start to get back to the main screen.
6. Now on the main screen, the program number appears in parentheses. Press the “PROG” button twice to see “STO”. Then press “START” and “Program Store....” appears. That means the new program is saved on the centrifuge.

C. Notes

1. To move from one program to another on **Rotina 420**:
 - a. Press the “PROG” button and “RCL” appears.
 - b. Use the knob to change it to the desirable program.
 - c. Then press “START” and “Program recall....” appears
 - d. The main screen will show the program requested.
2. To move from one program to another on **Universal 320**:
 - a. Press the “Select” button and “PROG RCL” appears.
 - b. Use the knob to change it to the desirable program.
 - c. Then press “START” and “***OK***” appears
 - d. The main screen will show the program requested.
3. More detailed instructions for all functions are included as an addendum.

D. Maintenance

Routine maintenance and function checks must be performed and documented.
Refer to the procedure Centrifuge Use, Maintenance and Function Checks for details.

6. RELATED DOCUMENTS

Hettich Centrifuge Rotina 420 User manual
Hettich Centrifuge 320 User manual
Centrifuge Use, Maintenance and Function Checks, Laboratory policy

7. REFERENCES

Hettich Centrifuge, Rotina 420 User manual, revised 11/2009.
Hettich Centrifuge, Universal 320 User manual, revised 10/2009

8. REVISION HISTORY

Version	Date	Reason for Revision	Revised By	Approved By

9. ADDENDA AND APPENDICES

Hettich Rotina 420 and Universal 320 Centrifuge Description

Hettich Rotina 420 and Universal 320 Centrifuge Description

A. Keys and setting options:

1. Control knob

Used for setting the individual parameters.
Turning anticlockwise reduces the value.
Turning clockwise increases the value.

2. Time

Running time, parameters **t/hms**

h hours, adjustable from 1 to 99 hours, in 1 hour increments

m minutes, adjustable from 1 to 59 min, in 1 minute increments

s seconds, adjustable from 1 to 59 seconds, in 1 second increments

3. RPM

Revolution, parameters **rpm**

Adjustable from 50 rpm to a maximum rotor speed of the rotor, in increments of 10

4. RCF

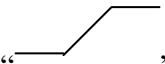
Relative centrifugal force, parameter **RCF**

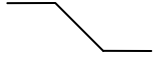
The RCF is shown in brackets > <. The LED in the button lights up.

The figure that is adjustable is the figure that produces a revolution speed between 50 rpm and the maximum rotor speed.

Adjustable in increments of 1

5. Run-in (to accelerate) and run-out (braking) parameters

• Run-in steps, parameters appear as “”.
Step 9 is the shortest run-in time, Step 1 is the longest run-in time

• Braking step, parameters appear as “”.
Step 9 is the shortest run-out time, Step 1 is the long run-out time, Step 0 is non-braked run-out.

B. Enter centrifugation parameters

If no key is pressed for 8 seconds long after the selection or during the input of parameters, the previous values will be shown in the display. The input of parameter then has to be executed again.

When entering several parameters, the START key does not have to be pressed until you have made the settings for the last parameter.

If parameters are changed, the program place number is displayed in parentheses (). This means that the centrifugation data in the display no longer corresponds to the centrifugation data from the program place that has been saved.

1. Running time

Press the TIME key. The **t/hms** parameters are displayed. The minutes (**m**) are shown in parentheses < >, and can be changed.

- Use the adjusting knob to set the value you want.
- Press the TIME key. The seconds (**s**) are shown in parentheses < > and can be changed.
- Use the adjusting knob to set the value you want.
- Press the TIME key. The hours (**h**) are shown in parentheses < > and can be changed.
- Use the adjusting knob to set the value you want.
- Press the START key, to have the settings applied to the display.

2. Speed (RPM)

- Press the RPM key. The parameters **RPM** is displayed.
- Use the adjusting knob to set the value you want.
- Press the START key, to have the settings applied to the display.

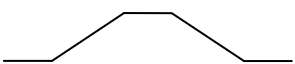
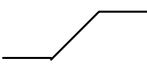
3. Relative centrifugal force (RCF)

Keep pressing the RCF key until the parameters **RCF** and **RAD** are displayed. The LED is lit in the key.

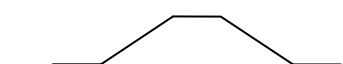
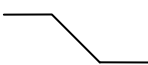
- Use the adjusting knob to set the RCF you want.
- Press the START key, to have the settings applied to the display.

4. Run-up and run-down parameters

a. Run-up step

- Press the key  as often as necessary until the parameter  is shown
- Use the adjusting knob to set the level you want.
- Press the START key, to have the settings applied to the display.

b. Braking step

- Press the key  as often as necessary until the parameter  is shown
- Use the adjusting knob to set the level you want.
- Press the START key, to have the settings applied to the display.

C. Inputting or changing programs

- Set the parameters you want.
- Press the PROG key as often as necessary until the **STO** parameter is shown.
- Use the adjusting knob to set the program place you want.
Press the START key to have the settings saved to the program place you want.
Briefly, **Program store ...** is displayed as confirmation.

D. Calling up programs

Hettich Rotina 420:

- Press the PROG key. The parameter **RCL** is displayed.
- Use the adjusting knob to set the program place you want.
Press the START key. Briefly, **Program recall ...** is displayed as confirmation.
The centrifugation data of the selected program place is shown.

Hettich Universal 320:

- Press the **Select** key. The parameter **RCL** is displayed.
- Use the adjusting knob to set the **PROG RCL** to desired program.
Press the START key. Briefly, *****OK***** is displayed as confirmation.
The centrifugation data of the selected program place is shown.