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Prepared by QA Committee		
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VITEK MANUAL

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Set Up of Vitek2 Cards:

Before each daily use, check Densichek or DensiCHEKplus with the appropriate standards.

For Densichek Model:

Densichek: reading within +/- 0.1 of the value printed on the Biomerieux standard tube.

Once monthly or as needed if McFarland standard reads out of range:

1. Press the adjustment button on the right side of the Densichek and insert the Calibration Standard tube and release the button.
2. Turn the standard one full rotation within the specified two second time interval.
3. The reading should be within +/- 0.1 of the value printed on the Calibration Standard tube.
4. If calibration fails, the reader cannot be used and must be returned to Biomerieux for repair.

For Densicheck Plus Model:

DO NOT VORTEX DensiCHEKplus standards, invert tube to re-suspend.

DensiCHEKplus glass setting: zeroed to 0.00 McF standard, 0.5 McF standard within range of 0.44 to 0.56.

Occasionally the instrument may freeze. To reboot, remove then replace the batteries.

NOTE: it is important to rotate the tubes during reading.

Press the POWER button.



1. Press the MENU button.
2. Press the green READ button to move the upper flashing triangle to “GLASS”.
3. Press the MENU button to save the setting.
4. To set the “blank” value, insert and turn the DensiCHEKplus Standards kit 0.0 McF standard one full rotation. If the reading does not occur, press the READ button to initiate reading and again turn the 0.0 McF standard one full rotation during reading. If the reading is not zero, press the “ZERO” key and rotate the 0.0 McF standard again during reading.

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5. Remove and reinsert the DensiCHEKplus Standards kit 0.0 McF, turning the tube one full rotation to check that it is zeroed correctly.
6. To set your 0.5 McFarland value, clean the 0.5 McFarland standard and invert 6 times to re-suspend. Insert and turn the 0.5 McFarland standard one full rotation. If the reading does not occur, press the READ button to initiate reading and again turn the 0.5 McFarland standard one full rotation during reading. Acceptable reading range for the 0.5 McFarland standard is 0.44 to 0.56.
7. If calibration fails, the reader cannot be used and must be returned to Biorerieux for repair.

Set zero reading for plastic tubes

1. Press the MENU button.
2. Press the READ button to move the upper flashing triangle to PLASTIC.
3. Press the MENU button to save the setting.
4. Insert and turn the blank plastic saline tube one full rotation. If the reading does not occur, press the READ button to initiate reading and again rotate the blank saline tube during reading. If the reading is not zero, press the “ZERO” key and rotate the blank saline tube again during reading.
5. If calibration fails, the reader cannot be used and must be returned to Biorerieux for repair.

McFarland Dilution of Organism:

For Gram negative bacilli, Staphylococcus species and Enterococcus species adjust McFarland turbidity to 0.5 to 0.63(± 0.1). For Haemophilus species, Neisseria species and Eikenella species adjust turbidity to 2.7 to 3.3 (± 0.1).

Set DENSICHEK PLUS to plastic tube setting for isolate suspensions



1. Use fresh 18 hour culture of organism.
2. Subculture frozen or freeze dried isolates twice before setting up any Vitek 2 cards.
3. Place a small barcode label near the top of a 3ml Vitek saline tube.
4. Inoculate organism into 3ml Vitek Saline tube, vortex and invert the tube 2 to 3 times to uniformly suspend inoculum.
5. Using the Densichek or DensiCHEKplus, insert and turn the tube one full rotation.
6. For heavy suspensions use additional saline from Vitek tubes to dilute.
7. Cards must be filled within 15 minutes of inoculum preparation.

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8. Card types include Identification and Antimicrobial Susceptibility Testing (AST).

Programming SMART CARRIER station

Useful keys:

- F8** to delete a single field
- F9** to delete an order number and associated cards
- F10** to delete all memory data
- F3** to review the cassette memory data
- F2** to return to the cassette after reviewing the cassette memory data



1. Turn on the **Smart Carrier Station** and place your cassette on the platform.
2. If the cassette was previously run in the Vitek, the message “Erasing cassette memory” will appear, clearing the cassette memory button. If previous memory data appears when you place the cassette on the Smart Carrier Station, press F10 to erase all data. “Erase cassette memory. Are you sure? will appear. Press F1 to erase, any other key to exit” will appear on the screen. Press F1.
3. For ID cards only, use only the inoculum tube.
 1. Place the inoculum tube into the cassette.
 2. Use the barcode reader to scan the order number. The isolate number defaults to “1”. To change the isolate number use the ↑ and/or ↓ keys to get to the isolate field, type in the new isolate number and press the enter key.
 3. Scan the Vitek ID card barcode and insert the blue tube portion (hockey stick) of the Vitek card into the inoculum. Always check the bottom of the Smart Carrier station screen to check current positions.
 4. If you have additional cards to set up, use the → arrow key to move to the next cassette position. Otherwise, press F3 to review the cassette memory data. Carefully check that the LIS order number, isolate number, card type and carrier position match the F3 screen. Press F2 if you need to return to the cassette to add or alter any data.
4. For ID cards mated with susceptibility cards, use the inoculum tube and an empty 12x75mm tube.

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1. For ID with susceptibility cards, place the inoculum tube followed by an empty tube into the cassette.
 2. Use the barcode reader to scan the order number. Change the isolate number if needed, as above.
 3. Scan the Vitek ID card barcode and insert the blue tube portion (hockey stick) of the Vitek card into the inoculum. Use the → arrow key to move to the next cassette position.
 4. Press F1 to copy the order and isolate numbers from the previous position.
 5. Scan the susceptibility card barcode and place the gray tube portion (hockey stick) of the Vitek card into the empty tube.
 6. Always check the bottom of the Smart Carrier station screen to check current positions.
 7. If you have additional cards to set up, use the → arrow key to move to the next cassette position. Otherwise, press F3 to review the cassette memory data. Carefully check that the LIS order number, isolate number, card type and carrier position match the F3 screen. Press F2 if you need to return to the cassette to add or alter any data.
5. For susceptibility cards only, use the inoculum tube and an empty 12x75mm tube.
1. Place the inoculum tube followed by an empty tube into the cassette.
 2. Use the barcode reader to scan the order number. Change the isolate number if needed, as above.
 3. Scan the susceptibility card barcode. The Smart Carrier station will automatically assign the susceptibility card to the empty tube position following the inoculum tube. Place the gray tube portion (hockey stick) of the Vitek card into the empty tube.
 4. Always check the bottom of the Smart Carrier station screen to check current positions.
 5. If you have additional cards to set up, use the → arrow key to move to the next cassette position. Otherwise, press F3 to review the cassette memory data. Press F2 if you need to return to the cassette to add or alter any data.
 6. A VitekMS identification will link to the susceptibility card through the Myla interface.
 7. If there is no VitekMS identification, you must enter an identification in the “Organism ID” field at the Smart Carrier station (use the “?” key

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to select the ID) or, if the ID is not listed at the Smart Carrier Station, it must be entered at the Vitek2 computer.

8. “Offline Tests: For Staphylococcus species, press the “+” key to enter beta-lactamase positive. For Enterococcus species, press the “-” key to enter beta-lactamase negative.
9. If you have additional cards to set up, use the → arrow key to move to the next cassette position. Otherwise, press F3 to review the cassette memory data. Carefully check that the LIS order number, isolate number, card type and carrier position match the F3 screen. Press F2 if you need to return to the cassette to add or alter any data.

1. Loading single cassettes into the Vitek2 system

Loading door signal lights:

1. solid green – ready to load cassette
 2. flashing green – cassette ready to unload
 3. light is off – instrument not ready to accept or unload cassettes
1. Lift the cassette off the Smart Carrier Station and take it to the Vitek loading dock.
 2. If there is a solid green light below the loading door, open the loading door and place your cassette in the boat.
 3. If there is a blinking green light, remove the completed cassette and place your cassette into the boat.
 4. If the light is off, the instrument is not ready to accept a cassette. Wait for the green light or use the other instrument.
 5. **Check that the cassette is properly seated, all caps are off the tubes, Vitek card hockey sticks are inside the suspension and susceptibility tubes and all cards are even.**
 6. After loading the cassette, wait for the happy sound (confirms memory chip data matches the card barcodes loaded in the cassette. If you do not hear the happy sound, the cassette will return to the Cassette Load Station where it will remain for **10 minutes only**. If no action is taken within 10 minutes, the cassette will be processed. Cards with load errors will **NOT** be processed and will return to the Cassette loading station. Remove the cassette and place it back on the Smart Carrier station. Correct errors and return to the Vitek2 loading dock.



Batch loading cassettes into the Vitek2 system:

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If three or four cassettes are ready to load at the same time, you may select Batch loading.

1. Check to be sure tips, saline and ID/Sens slots are enough for all cards in the batch.
2. Access the Batch Load function on the main menu.
3. If three or four boats are available, the screen will ask you to choose 3 or 4 cassettes to load.
4. The screen will indicate Load cassette number 1, etc. Follow the onscreen instructions.
5. The boats will be accepted one by one and then transported through bar coding, filling and reading one by one.
6. Be sure to listen for the happy sounds for each cassette, before leaving the instrument. If you do not hear the happy sound, the cassette will return to the Cassette loading Station. Remove the cassette and place it back on the Smart Carrier station. Correct errors and return to the Vitek2 loading dock.

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VITEK2 Daily Routine:

Daily instrument management:

1. Remove the waste tray and discard the cards. Replace waste tray carefully to insure it is properly seated.
2. At the instrument, press the “Menu” button, followed by “Display instrument QC status” button.
3. Note section A and B temperatures and the optical system status and record in the LIS Vitek QC.
4. Press the “ Menu” button twice to return to the main menu.

Vitek2 version 6.01 System Overview:

The main navigational areas of the system software include:

1. Enter Manage Cassette View
2. Enter IsolateView
3. Enter Quality Control View
4. Enter Patient View
5. Configuration View
6. Utility View

Note: Reviewed order results remain in the active session for 30 days. After 30 days these results transfer to long term storage. Once an order is in long term storage the results may not be re-interpreted.

To begin if the system has been logged out:

Press Ctrl-Alt-Delete.



To log into windows:

Enter Username: labsuper
Enter Password: labsuper

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To log into the Vitek2 system:
 Click on the Vitek2 Systems icon.
 Enter Username: labsuper
 Enter Password: labsuper

If there is a problem with a cassette, the program will begin in “Enter manage Cassette View”.

A **red** cassette indicates an error in data. However, there is an anomaly in the new smart carrier station program that randomly causes a correct cassette to register as red.

Note: All data of ALL cards in a **red** cassette will be unavailable until the cassette is corrected.

1. Check the **red** cassette for missing data (e.g. no card type, no card barcode (last 4 digits), no order number, no organism identification and no beta-lactamase). If the cassette is correct (no missing data), go to step 4.
2. If the VitekMS ID code (3 capital letters) does not match the organism ID in the Vitek you will get an error message. This may be due to an incorrect isolate number or, an identification manually entered which does not match the VitekMS.
3. to add or correct missing data, click the appropriate field highlighted in blue
4. click “Save”.

Daily review

From the main menu click on the “Enter Isolate View” icon OR, from the toolbar click on the “Maintain Isolate Information” icon



View by: Date Tested
 Filter by: Qualified

An orange and red square indicates missing data:

1. No patient name:
 Check the LIS: if there is no isolate number, add it now. The download should be automatic. If there already is an isolate number or if there was no automatic download after you have added the isolate number, you will need to do a manual download (see below).
2. No beta-lactamase:

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Click on AST offline tests, choose result.

3. No organism identification/Low Discrim/slashline.
Print out reports.

Note: as the orders are corrected they will disappear from this work list and the cursor will default to the first on the list.

Printing preliminary reports:

View by: Date Tested
Filter by: Preliminary

This will show orders still in progress.



1. Print all reports. Printing may be batched (see below).

Printing reports with terminated antibiotic(s):

View by: Date Tested
Filter by: Show All

1. Click on the “Advanced Isolate Filter” icon.
2. Card Analysis Status: Terminated.
3. Test Date: choose the date the cards were loaded into the Vitek.
4. Click “OK”.
5. Print all lab reports. Printing may be batched (see below).

Note: to return to the previous screen, click on the “Reset Advanced Isolate Filter”.

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Troubleshooting

Biomerieux Technical Support

Contact the Biomerieux Technical Support Customer Service Hotline for all technical support or information.

Technical Support phone #: 1-800-361-7321

They may require the following information which can be found on the front of each Vitek analyzer:

- Customer number
- Analyzer serial number

Manual download from the LIS

1. From the LIS main menu, click on “Interfaces”.
2. Double click on instrument menu.
3. Highlight Myla, click on “Create Loadlist”.
4. “Way of Classifying Orders” choose “All Orders”.
5. Choose “From date”.
6. Enter “From order” number.
7. Click “OK”.
8. Click “Add All”.
9. Click “OK”.
10. To mark order(s) to download:
options:
 1. Use the space bar.
 2. Right click on the order.
 3. Type in the order number.
11. Click on “Download selected Order(s)” icon.

To Search for a Result or to Change the Isolate number/order number/ identification:



From the main menu click on the “Enter Isolate View” icon OR, from the toolbar click on the “Maintain Isolate Information” icon.

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View by: Isolate
Filter by: Show All

1. Click on the “Search Accession number” (magnifying glass) icon.
2. Enter or scan order number.
3. Click OK.

To change an isolate number:

1. Click on the isolate number field and select the new isolate number.
2. A “confirm” window will appear. Choose “Yes” or “No”.



To choose a “Low Discrimination” identification or to change an identification:

1. Click on the “<<Low Discrim>>” field or identification field and select the identification.
2. A “confirm” window will appear. Choose “Yes” or “No”. If you have chosen “Yes” the isolate will be automatically re-analyzed.
3. Click on the “Transfer isolate data” icon.

To change the order number:

1. You can delete the order number by clicking on the order number field and using the backspace or by highlighting the number and pressing the “delete” key.
2. Enter the new order number.
3. A “confirm” window will appear. Choose “Yes” or “No”. If you have chosen “Yes” the isolate will be automatically re-analyzed.
4. Click on the “Transfer isolate data” icon.

To enter on AST Offline test:

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1. Click on the “AST Offline Tests field”. Choose “Beta-Lactamase +” or “Beta-Lactamase – “.
2. A “confirm” window will appear. Choose “Yes” or “No”. If you have chosen “Yes” the order will be automatically re-analyzed.
3. If you want to transfer a finalized isolate, click on the “Transfer isolate data” icon
Click on “Enter Isolate View”.

To delete an individual card still “in progress”:

From the main menu click on the “Enter Isolate View” icon OR, from the toolbar click on the “Maintain Isolate Information” icon.

View by : Isolate
Filter by: Show All

1. Click on the “Search Accession number” (magnifying glass) icon.
2. Enter or scan the order number.
3. Click OK.
4. The order number will be highlighted by the cursor, click on the specific card to highlight that card.
5. Click on “Eject cards” icon.
6. Click on the “Delete” icon.
7. A “confirm” window will appear, Choose “Yes” or “No”.

To delete a completed individual card:



From the main menu click on the “Enter Isolate View” icon OR, from the toolbar click on the “Maintain Isolate Information” icon.

View by : Isolate
Filter by: Show All

8. Click on the “Search Accession number” (magnifying glass) icon.
9. Enter or scan the order number.
10. Click OK.
11. The order number will be highlighted by the cursor, click on the specific card to highlight that card.
12. Click on the “Delete” icon.

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13. A “confirm” window will appear, Choose “Yes” or “No”.

To delete an entire order (identification and sensitivity card:

From the main menu click on the “Enter Isolate View” icon OR, from the toolbar click on the “Maintain Isolate Information” icon.

View by: Isolate
 Filter by: Show All

1. Click on the “Search Accession number” (magnifying glass) icon.
2. Enter or scan the order number.
3. Click OK.
4. The order number will be highlighted by the cursor, click on the “Delete” icon.
5. A “confirm” window will appear, Choose “Yes” or “No”.

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Printing Individual Vitek Results

1. From the order number:

1. Click on the “Printer” icon.
2. Default is “Selected result report type:” Lab report.
3. Click “Print All”.
4. Click “Cancel”.

2. From the card:

To print card details:

1. Click on the “Printer” icon.
2. Default is “Selected result report type:” Card Detail Report.
3. Click “Print All”.
4. Click “Cancel”.

To print “Lab Report” details when the default is “Card Detail Report”:

1. Click on “Lab Report”.
2. Click on “Card Detail Report”.
3. Click “Print All”.
4. Click “Cancel”.

Printing Batched Consecutive Results:

1. Click on the first order.
2. Hold down the “shift” key and click on the last order to be printed. The first and last orders and all orders in between will be highlighted.
3. Click on the “Printer” icon.
4. Click “Print All”.
5. Click “Cancel”.

Printing Batched Selected Results:



1. Click on the first order.
2. Hold down the “Ctrl” key and click on the other orders for printing.
3. Click in the “Printer” icon.
4. Click “Print All”.

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5. Click “Cancel”.

Searching for an Order in Long-Term Data Storage:

Note: orders in long term storage may not be re-interpreted.

From the main menu click on the “Click to Select One Utility View” icon (tool box).

1. Select “Search Long-Term Data Storage”.
2. Search criteria:
 1. For Patient ID enter MRN.
 2. For Lab ID enter Order number.
 3. Enter in capital letters without any spaces; patient last name, comma, first name e.g. DOE, JOHN.
 4. Completion Date (default) – date cards completed in Vitek. To choose Collection Date click on the field on select.
3. Click the “Search” (binoculars) icon.
4. Click on order .
5. Click on the “Print” icon (default is Lab Report).
6. Click “Reset” (eraser) icon to search for a different patient.

QUALITY CONTROL

Daily QC:

Densichek PLUS calibration:

Performed by individual benches; each densichek PLUS’s calibration must be checked each morning before use and recorded in the LIS QC program.

Each standard must fall within their defined acceptable range.



Standard	Acceptable Range	
0.5 McF	0.44	0.56
2.0 McF	1.85	2.15
3.0 McF	2.79	3.21

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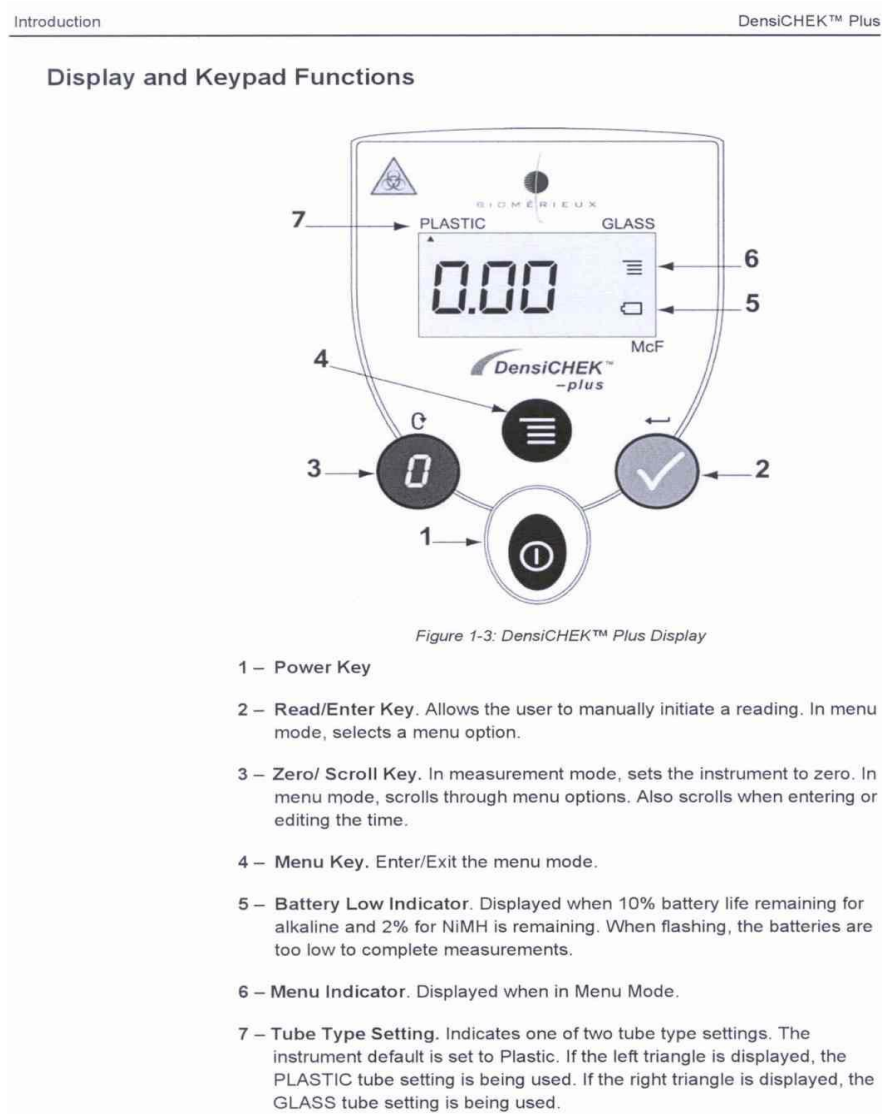
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NOTES:

- The densicheck PLUS **MUST** be set to glass or plastic according to the tube being used.
- Mix standards well by inversion
- When reading or blanking, always slowly rotate the tube one full rotation while the instrument displays a series of dashes. This will help to reduce the variation in readings due to irregularities in the tubes.
- When making suspensions, periodically recheck a blank plastic tube to verify zero is set correctly.
- See [Densichek PLUS diagram](#) below for an explanation of display and keypad functions

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Densicheck PLUS Model:





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Monthly QC:

Densichek PLUS cleaning:

Performed by QC bench: each densichek PLUS must be cleaned monthly.

1. Fill a small container with 3-25% hydrogen peroxide solution to fit a Densichek test tube adaptor
2. Working with one Densichek at a time:
 - i. Remove test tube adaptor
 - ii. Fully immerse in hydrogen peroxide followed by plain water
 - iii. Leave on lint free cloth to air dry completely
 - iv. Use a swab with 3-25% hydrogen peroxide to clean reading chamber
 - v. Clean circular windows on opposite sides of reading chambers with lens paper
3. Document cleaning in the LIS QC Program for each Densichek

Instrument QC Status report:

Refer to “Daily Instrument management”.

QC Cards:

Note: All QC cards must use only ATCC numbers to be included in the QC program. Non-ATCC numbers will appear only in the patient data program and cannot be moved to the QC program.

To register new card lot numbers:

From the main menu click on the “Enter Quality Control View” icon OR, from the toolbar click on the “Manage QC Results” icon.



1. Click on the “Record Shipment” icon.

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2. Enter lot number (duplicate lots will all be isolate 1).

Set-up:

There is no longer a QC loadlist.
Set up sensitivity cards following established protocol.

Vitek Susceptibility Card QC :

Susceptibility Cards must have QC performed weekly and after BiorMerieux preventive maintenance.

From the main menu click on the “Enter Quality Control View” icon OR, from the toolbar click on the “Manage QC Results” icon.

Default settings are: View by: QC Reference ID
Filter by: Current, all isolates

1. Change “Filter by” to “Current, deviation only”.
2. Click to highlight the card. Click on the “Comments” field and enter comment outlining action to be taken (e.g., repeat card).
3. Print all reports for the senior Quality Assurance or charge technologist.
4. Click on the “Review” icon.

Note: Card printout will include Instrument name TML-MSH-1 or TML-MSH-2.



1. Change “Filter by” to “Current, to be reviewed”.
2. Click on the “Expand All” icon. Click on first card to highlight it.
3. Hold down the “shift” key and click on the last card to highlight all cards.
4. Click on the “Review” icon.
5. A “confirm” window will appear, Choose “Yes” or “No”.

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Vitek Maintenance:

Changing pipette tips and saline:

Pipetter/Diluter Accessory Kit (tips and tubing) and 0.45% saline bag.

Detailed procedures for changing VT2 tips and saline can be found in the VT2 Instrument Manual. (Section 7.3 to 7.9) After changing the tips and saline, a Dispenser/Pipetter diagnostic Test must be performed (**not** the Dispenser/Pipetter **Volumetric** Test), following the detailed procedures in the VT2 Instrument Manual. (Section 8.19 to 8.20).

A warning alarm will sound when the instrument tip and/or saline count drops below 40 indicating low stock. Do not change the tips and saline until approximately 10 to 15 tips are left. If there are an insufficient quantity of tips and/or saline, the cassette will not be processed and will return to the Vitek2 loading dock. Load the cassette in the other instrument.

If there are cards in the transport system, you will have to wait until they have been finished before you can change the tips and saline.

Change the tips and saline as follows:

Enter the lot number and expiry dates of the saline and Pipetter/Diluter Accessory kit in the Vitek QC programme.

At the Vitek2 instrument screen press:

“Menu”, “Utilities”, “Maintenance”, “change pipette tips”.

At the prompt “About to change pipette tips. Do you wish to continue?” Choose “Yes” or, to stop, choose “No”.

If you choose “Yes”, the Vitek2 screen will show “Proceed with pipette tip change”.

Use aseptic technique (wear gloves) to avoid contamination and fingerprints on the saline dispensing tube.



4. Tip the Vitek2 pipette holder upward, then lift up and remove it.
5. Discard remaining tips.

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6. To open the pipette tip container, hold the front and back together (to avoid it springing open), then lift up the top flap.
7. Invert the Vitek2 tip holder upside down over the tip container and flip both over, allowing the tips to fall into the Vitek2 tip holder.
8. If the tips are not even, tap the holder gently on the side with your hand or use a sterile loop to even the tips.
9. Reseat the Vitek2 tip holder and tip it back into place.
10. Press “Done”.
11. On the Vitek2 screen you will see “Performing Pipetter self check”.

If more detailed instructions are needed, refer to the Vitek2 online manual and/or the Vitek2 Instrument User’s Manual.

At the Vitek2 instrument screen press: “change saline”.

At the prompt “About to change saline. Do you wish to continue?” Choose “Yes” or, to stop, choose “No”. If you choose “Yes”, the Vitek2 screen will show “Proceed with saline change”.



1. Move the dispenser tube locking mechanism backward and remove the used dispenser tube, filter lines and saline bag.
2. Unwrap and place the saline bag onto the Vitek2 platform.
3. Using the replacement tubing and dispenser tube from the Pipetter/Diluter Accessory kit, move the dispenser tube locking mechanism backward and aseptically insert the new dispenser tube making sure it is properly seated..
4. Release the locking mechanism.
5. Replace the filter.
6. Remove the covers from the remaining tubing and saline bag, and insert the tubing tip into the saline bag. Make sure tubing is not be twisted.
Be carefully not to drop the tip covers into the instrument.
7. Press the primer button to fill the tubing and the dispensing tube to the upper shoulder.
8. Lift the saline bag and hold it below the level of the primer button. Press the primer button slightly to lower the saline level to the lower shoulder of the dispenser tube.
9. Use a Kimwipe to gently clean the dispenser tube. Press “Done”. The instrument will “Perform a dispenser self check” and return to the maintenance menu, if successful.

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If more detailed instructions are needed, refer to the Vitek2 online manual and/or the Vitek2 Instrument User's Manual.

Dispenser/pipettor diagnostic test:

Perform every time the saline and tips are replaced.

Place 3 mls. saline in cassette slots 1 and 3, and empty tubes in slots 2, 4 and 5 in a cassette. Smart carrier station entry is not required.

At the Vitek2 instrument screen press:

“Menu”, “Utilities”, “Diagnostics”, “Diagnostics/Pipettor”.

At the prompt “About to perform dispense pipettor test.. Do you wish to continue?” Choose “Yes” or, to stop, choose “No”.

If you choose “Yes”. the Vitek2 screen will show “Load test cassette now”.

The dispenser/pipettor diagnostic test is a visual test as well as an electronic test. While the instrument is performing this test, you must open the front left door of the instrument and visually check the saline dispenser for any of the abnormal conditions listed below:

IMPORTANT: Ensure there is no sunlight shining directly on the saline dispenser.



1. Look for repeated back and forth movement while the saline dispense is in the upright position. The saline dispenser should move smoothly up and down when filling each empty tube (positions 2, 4 and 5).
2. Look for saline remaining in the saline dispenser tube when it returns to the upright position.
3. Look for a saline stream and/or drops released from the saline dispenser tube when it is filling with saline.
4. Look for a saline stream and/or drops released from the saline dispenser tube as it returns to the upright position.
5. Look for lower volumes of saline while saline is being dispensed, comparing tubes 2, 4 and 5 to each other. (tubes 1 and 3 will have somewhat higher volumes).
6. Observe the instrument user interface for Pipettor error 21 or any Dispenser errors.

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If more detailed instructions are needed, refer to the Vitek2 online manual and/or the Vitek2 Instrument User's Manual.

For maintenance problems contact Biomerieux immediately.

Biomerieux contact number: 1-800-361-7321
 Customer number: 2013444
 Vitek system number: 150160
 Vitek #1 (TML-MSH1) serial No: VTK2XL 1558
 Vitek #2 (TML-MSH2) serial No: VTK2XL 1233

Maintenance – Monthly

Monthly Cleaning:



1. MAX available slots must be 120; available ID slots must be 60.
2. Remove memory chips from trays (carriers)
3. Remove boats through menu (main menu, utilities, maintenance, cleaning)
4. Remove carousels for reader A, then reader B through menu (main menu, utilities, maintenance, cleaning)
5. Remove vitek discard card holders
6. Shutdown power through menu (main menu, utilities, maintenance, shutdown), pull out plug
7. Wash all removed parts with warm water, mark trays with a “W” (washed), put all in O2 incubator to dry
8. Dampen green cloth with 70% alcohol, clean inside surfaces and bottom of vacuum chamber (orange rubber)
 - Located inside left side of Vitek elevated towards back (look up)
9. Check overflow chamber and clean if necessary (open front panel at bottom of Vitek)
10. Clean arrays: (compressed air follow by alcohol wipe, dry with kimwipe)
11. Clean 6 sensors (compressed air only)
 - 2 top of B at sides
 - 1 each at bottom of carousel rotator
 - 1 each at top of rotator
12. Put plug back into instrument and turn on.
13. Allow parts to dry
14. Replace carousels in A, then B following the menu screen prompts
 - Replace carousel by angling it so the slanted notch at the small end slips beneath the black prong and the 2 cylindrical posts on the mounting side of the carousel fit into the carousel wheel.

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Ensure biohazard symbol is facing out (towards you) when replacing

- if an error occurs when replacing the incubator cover, turn system off through menu, ensure cover is properly aligned, then turn system back on.



15. Replace boats through menu:

Ensure arrow on boats is point towards the back of the Vitek (away from you)

16. Replace memory chips in trays.

2014.07.09 Vitek AES breakpoint changes:

[Vitek AES Breakpoint Manual Changes 2014.07.09](#)

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Record of Edited Revisions

Manual Section Name: Vitek



Page Number / Item	Date of Revision	Signature of Approval
Annual Review	May 12, 2003	Dr. T. Mazzulli
Annual Review	May 26, 2004	Dr. T. Mazzulli
Annual Review	May 12, 2005	Dr. T. Mazzulli
Annual Review	September 25, 2006	Dr. T. Mazzulli
Updated to Vitek 2	September 25, 2006	Dr. T. Mazzulli
Annual Review	August 13, 2007	Dr. T. Mazzulli
Annual Review	August 15, 2008	Dr. T. Mazzulli
Annual Review	August 01, 2009	Dr. T. Mazzulli
Annual Review	August 15, 2010	Dr. T. Mazzulli
Annual Review	August 15, 2011	Dr. T. Mazzulli
Annual Review	August 15, 2012	Dr. T. Mazzulli
Updated to new Vitek 2 software	August 15, 2012	Dr. T. Mazzulli
Annual Review	August 25, 2013	Dr. T. Mazzulli
Vitek AES breakpoint changes	July 9, 2014	Dr. T. Mazzulli
Annual Review Addition of Densicheck PLUS instructions Updated UHN/MSH logo	August 26, 2014	Dr. T. Mazzulli
Annual Review	August 24, 2015	Dr. T. Mazzulli
Removed original Densicheck PLUS calibration Add ranges for Bench Densicheck PLUS calibration for each standard Added monthly QC bench cleaning of densicheck PLUS	January 27, 2016	Dr. T. Mazzulli
Removed cleaning tape use in monthly cleaning maintenance.	June 2, 2016	Dr. T. Mazzulli
Annual Review Updated MSH logo in header Monthly cleaning procedure: Added cleaning method to clean arrays (compressed air/alcohol wipe/kimwipe and sensors (compressed air only) Added note to ensure proper orientation of boats and carousels when replacing in vitek Created troubleshooting section	June 17, 2016	Dr. T. Mazzulli

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Page Number / Item	Date of Revision	Signature of Approval
Added Biomerieux Technical Support to troubleshooting section		
Annual Review	June 20, 2017	Dr. T. Mazzulli
Annual Review	June 30, 2018	Dr. T. Mazzulli
Minor format change	September 14, 2018	Dr. T. Mazzulli

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