

BioFlo® 320 Update – Version 04.02

Description of changes:

Software revision 04.02 incorporates the following solutions/additions to improve the performance of your bioprocess controller:

- > Service Diagnostic Screen
 - New system timers for Preventative Maintenance, Maintenance Intervals, and Peristaltic Pump
 - New maintenance notifications that differ from standard alarms.
 - Collection of status information on modules configured into unit
 - Maintenance Mode allows for reset of PM timer and Pump Timer
- > All Stop Button - Single button that shuts off all active loops and pumps visible in all screens in Unit View
- > Scale Up Assist Screen
- > Health Sensor Widget - Display of stoplight sensor health and sensor data on relevant loop screens
- > AutoCal Subpage for DO Calibration
 - Addition of an Autocalibrate button to DO calibration page that launches AutoCal subpage
 - Calibration factors for AutoCal visible and editable in Maintenance Mode
- > Pump Control Selection on Set Up Screen for 1390801400 pumps (Merkle Korff 25RPM)
 - Change of Pump 4 Selection in Maintenance Mode on Set Up Screen to now have 3 selections including 1390801400
 - Pump control curves now on software side and only referenced by firmware
 - Ensured that new pumps run at minimum of 6V at 5RPM (25% setting)
- > Corrected issue found where “NAN” was displayed for several parameters on Pump gauge screen when pump was set to cascade mode and set point value was set to 0.0.

NOTE: For multiple BioFlo 320 installations, please ensure to update the software for Unit 1 before updating the software for units 2-8. This will ensure that software changes are visible on the user interface as they are made for units 2-8. For the update of any unit, the USB drive remains inserted in the USB port of unit 1.

Instructions:

Determine which software version is currently installed in your computer:

- > Turn on your fermentor/bioreactor
- > Select the Setup button(Unit View) from the bottom
- > Select the Software Tab
- > View the software version

If the installed software is lower than the latest version listed above, perform the upgrade as listed below. You may want to print this page for easy access to the instructions while you work.

1. Note - Some recipes may not be compatible with the system after firmware upgrades; we recommend manually recording all recipe values prior to

- upgrading your firmware, as well as backing them up on an external USB memory stick before performing the upgrade
2. Note - For multiple BioFlo 320 installations, please ensure to update the software for unit 1 before updating the software for units 2-8; this will ensure that software changes are visible on the user interface as they are made for units 2-8. For the update of any unit, the USB drive remains inserted in the USB port of unit 1.
 3. Extract the downloaded .ZIP file to your hard drive (suggest "desktop")
 4. Install a USB external memory device into the computer's USB drive connection
 5. Go to the Extracted .EXE file with in extracted file on your hard drive and double click the file
 6. Pop up menu comes up – Select Run
 7. From the pop up menu - under "Unzip to folder" – click "Browse" and select USB drive (Removable Disk)
 8. Select Unzip button and Okay
 9. After download is complete select "Close" to close the dialog box
 10. Remove the USB external memory device from the computer and insert it into your fermentor/bioreactor USB port on the back of the unit
 11. On your fermentor/bioreactor, select the Unit View – Setup screen
 12. Select the 'Software' tab
 13. Select the 'Refresh' button located in the 'Software' panel
 14. In the 'Updates' list, select the file (\Update_R320GUI_04020002) to be installed
 15. Select the 'Update' button and the update routine will begin
 16. During this update routine, a few dialog boxes (sometime error messages) will pop up
 17. Select "Yes" to all and the unit will automatically restart a few times
 18. After the update is complete – you will come to the main screen
 19. Select the Unit View – Setup screen and go the "System" tab
 20. Select "Checkmark" button - This will bring back your original loops settings and control
 21. Verify that the new version is running by selecting the 'Setup' button and then the 'System Settings' tab. Under "Software" confirm you have "Revision 02.02"
 22. The unit will now be running with the new version that was installed on it
 23. In case multiple units are connected and controlled from the same touchscreen monitor (units 2-8), proceed one by one with the other connected units:
 - a. Select the group view button, and select unit 2.
 - b. Select the unit view button and repeat steps 14-25
 - c. On units 2-8, the reboot takes place after a few seconds. On the touchscreen, a message will appear "Lost communication with unit 2".
 - d. Only when the message "Communication established with unit 2" appears, the firmware update is complete. This may take several minutes.
 - e. After unit 2 is completed, proceed to unit 3 (etc.)
 24. The USB external memory device can be removed from the unit

Congratulations! You have installed the latest performance enhancements.