



BREEZESUITE™ 8.6 Service Pack 9 Release & Installation Notice

This software is a Service Pack for BreezeSuite™ cardiorespiratory diagnostic software version 8.6 and is intended to be installed on any computer that has BreezeSuite 8.6 already installed.

Minimum System Requirements

- BreezeSuite cardiorespiratory diagnostic software version 8.6.

CAUTION: Support for Windows 7 from Microsoft ended in January 2022. Because of this, Service Pack 9 was not validated with Windows 7.

Important:

- Perform a BreezeSuite database backup prior to installation of Service Pack 9
- Installing the English version of Service Pack 9 will remove language translation files. Reinstall Service Pack 8 in the correct language.

NOTE: For multiuser installations, Service Pack 9 is applied to all BreezeSuite installations. SP9 is not applied to the BreezeSuite SQL database.

Installation Procedure

NOTE: If Service Pack 9 was downloaded from the MGC Diagnostics website, extract/unzip the file prior to starting installation.

1. Close all applications.
2. Browse to the “BreezeSuite86SP9.exe” file on your installation media (USB flash drive, etc).
3. Right click on the “BreezeSuite86SP9.exe” file and select “Run as Administrator”.
4. Follow the on-screen prompts to complete the installation.
5. After the files have been installed, remove the USB Flash Drive from the computer if applicable.

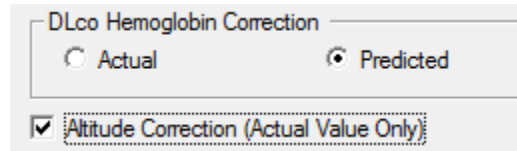
LANGUAGE TRANSLATIONS

The translation files for Service Pack 9 included in this release are: Spanish, French, Italian, Portuguese, Russian and Chinese.

CAUTIONS

1. The 2017 ATS/ERS DLco Guidelines recommend that the DLco predicted value be corrected for hemoglobin. With a subject visit open in BreezeSuite, go to F5 Options, then the DLco/DLco RTD Tab and verify the hemoglobin correction is set to the desired entry.

2. The 2017 ATS/ERS DLco Guidelines recommend that the DLco actual value be corrected for altitude. With a subject visit open in BreezeSuite, go to F5 Options, then the DLco/DLco RTD Tab and verify the altitude correction box is checked



DLco Hemoglobin Correction

Actual Predicted

Altitude Correction (Actual Value Only)

Highlighted Changes for Service Pack 1

- Added a NIOSH file export function. This function creates a CSV file that contains the necessary data and graphs to comply with the NIOSH guidelines. This item can be enabled by going to F5 Options>Export Tab or Quick Print>Manual Export.
- Corrected Custom Consult error when using Z-Score.
- Added back the “Include Patients with no Visits” option in the Open Patient/Visits dialog.
- Corrected an issue to allow the Header and History sections of a report to be modified easier.
- Corrected an error when in Breeze Review and viewing auxiliary data in the ABG Tab.
- Added Tech Comments and Physician Interpretation when converting nSpire data into BreezeSuite.
- Corrected an issue to make the Height and Weigh units the same on the Text and PDF reports as well as the SUM file.
- Corrected an issue where age was not being recalculated after it was updated from Instrument Manager.
- Corrected an error when using the GX Graph “Zoom” function.
- Improved the sorting function when the Patient List is displayed.
- Created a new Text Report in the ATS Complete format.
- Added a visit date range when converting SentrySuite patients into BreezeSuite.
- Corrected an issue when combining PDF reports.
- Removed the units from the LCI variable.
- Changed the time output of WFATester to report time in actual computer time.

Highlighted Changes for Service Pack 2

- Breeze will now allow duplicate inactive workstations but only one active workstation entry of the same name.
- Corrected a typo in GX Predicted Sets for “Compute True O2”.
- Improved the data conversion of nSpire/Collins PF data.
- Improved the ability to export the Pulmonary Statement Dictionary and the Custom Statement Dictionary
- Added the SigningDoctorID to the SUM file.
- When “RemoveCR” is set, Line Feed(CR) will be replaced by the specified “Line Feed Substitution” HIS option for the following items: Medications, Diagnosis, Comments, Post Test Comments, PF Consult, GX Consult.

- The following HIS Options are stored in the Setting Database Table and have the following default settings: HISRemoveCR: OFF, HISLineFeedSubstitution (When HISRemoveCR is set): “~”, HISGroupSeparator: “;”, HISSubgroupSeparator: “^”
- The following TextReport Options are stored in the Settings Database Table and have the following default settings: TextReportRemoveCR: OFF, TextReportUseFixedPredicteds: OFF, TextReportCommonTextWidth: 80, TextReportTextReportWidth: 80, TextReportLineFeedSubstitution (when TextReportRemoveCR is set): “~”, TextReportGroupSeparator: “;”, TextReportLineFeedSubstitution” ^”

Highlighted Changes for Service Pack 2.5

- Corrected an issue where a previous visit date, if the patient had more than one visits, could be placed on a final report or export file when printing or exporting immediately AFTER running Custom Consult (PF/GX)

Highlighted Changes for Service Pack 3

- GLI recently released updates to their 2017 DLco predicted equations. These corrections were added to BreezeSuite.
- Changed the End Of Forced Expiration (EOFE) criteria so that the effort is acceptable if: the subject has a plateau within 15 seconds of expiration OR the subject exhales for 15 seconds (even without a plateau). The minimum 6 seconds of exhalation has been removed.
- Corrected an issue with the 6 Minute Walk Test report where the graph would not display properly in the Post BD test mode. Also corrected an issue with the Stage Markers for the 6MWT.
- Corrected an issue when Posting the 6MWT report to the EMR.
- Corrected discrepancies in the % Distance Walked in the 6MWT
- Corrected an issue where the communication from the Nonin WristOx to BreezeSuite would stop if only one of the signals (HR or SaO2) were lost. Communication should continue if one of the signals is still active.
- Verified that Service Pack 3 is compatible with Local SQL 2019 Express as well as Networked SQL 2019 Server
- Added the Meridian Series in the drop-down list of hardware in the hardware selection screen
- Corrected the misspelling of the word “Vaping” in the Final Report
- Enhanced the conversion of nSpire/Collins data into BreezeSuite
- Corrected an issue where the user was not able to copy an existing Custom Consult Interpretation when Security was turned off
- Enhanced the detection of a slow or bad O2 Cell during calibration
- Enhanced the O2/CO2 augmentation for the current Ultima Series
- Added new ECG Only screen configurations for Bike Mortara ECG Only and Treadmill Mortara ECG Only
- Corrected an issue where the visit date on a report could change after running the Custom Consult application, then exporting a report.
- Enhanced the importation of Statement Dictionaries from previous versions of BreezeSuite

- Enhanced the flow noise band for Meridian hardware to pass ISO Waveforms
- Changed the VPANT average value to come from only selected TGV efforts
- If a PDF file is exported to a folder where the user has insufficient rights or where the PDF printer is either missing or corrupt, the PDF file will be placed in “Pending Review”
- Corrected an MFC Application Error when printing a report and BreezeSuite is set to Chinese
- When running in ECG Only Mode, the HR and BP from Motara now flow into BreezeSuite and can be exported in the SUM file
- The ECG Only configurations have been updated to display BreathxBreath data for HR, Speed, Grade, Watts, METs and BP
- Corrected an issue of the GX report having blank pages when the report is viewed twice (back-to-back)
- For Bike Scripts, METs is now initialized based on subjects weight
- Corrected an issue where duplicate blood gas variables would be displayed at the top and bottom of a report
- Corrected an issue with exporting a GX report after using the Proxy Electronic Signature
- Corrected an issue where the Visit Time for a test was listed twice in the Header of a report
- Corrected an issue on Windows 10 computers where the ECG Summary report could not be previewed or printed
- Added a check to verify a minimum height and weight has been entered into patient demographics to prevent negative predicted values. The minimum Height is 30 cm (12 in) and the minimum Weight is 2 kg (4.4 lbs)
- When “Add Visits Via Orders Only” is checked, the ability to manually add a visit is disabled
- Added the ability to specify decimal places for Slopes for the following Test Tabs: Chronotropic Index, EOV, OUES, VE/VCO2 Slope, VO2/Work Slope
- Added the ability to select HIS Report and Text Report separators separately: Options\Export\HISReport and Options\Export\TextReport)
- Corrected an issue where the patient visit could not be closed or saved when using the Single Order Driver

Highlighted Changes for Service Pack 3.1

- Corrected the averaging of the 6 Minute Walk Test (6MWT) data that was displayed at the 30 second or minute mark for every stage – for both the Test Screen as well as the Final Report.
- In the 6MWT, the O2 liter flow in the drop-down list was increased to 20 L/min for mask applications.
- Corrected an issue where the Breathing Reserve (BR) values in the Test Screen or Summary Tab do not match the BR values in the computerized exercise interpretation program.

Highlighted Changes for Service Pack 4

- Updated BreezeSuite to function with the Nonin 3150 BLE WristOx2 pulse oximeter
- Added the 2021 GLI Predicted equations for Lung Volumes
- Corrected issue with 6MWT when multiple comments/entries had the same time stamp and they would not import into another database

- Updated the User Interface for when the WristOx is not connected
- Corrected an issue where the Disability Report would not print correctly if it was added to the end of a report
- Corrected the disappearance of grid lines on a graph when the graph is enlarged
- During a 6MWT a message would appear stating to press the space bar to start the test. This has been corrected.
- Added support for the -903 Platinum Elite (without flush solenoids) for ISO Waveforms
- Corrected an issue in the report for the OUES graph
- Corrected issue of flow offset out of range during the middle of a test

Highlighted Changes for Service Pack 5

- Corrected an issue of the Z-Score for FOT variables not being calculated correctly
- Added the Calogero 2013 predicted author in BreezeSuite for the FOT system
- Updated the CO2 lower gain limit for PF systems – changed from 10.0 to 5.0
- Corrected an issue where an error message would be displayed if the ECG Summary was viewed in XScribe, but the report was not exported prior to exiting
- Corrected an issue where the Recovery Marker for a CPET test was not displayed on a Time Down Test Screen/Report when the averaging method was set to “30 of 30”
- Increased the amount of time before BreezeSuite expects XScribe to respond in order to eliminate an error message that says “Mortara CardiO2 not responding”

NOTE: When using the Microsoft Print to PDF printer, the printer should be configured in the “Compatibility” mode in order to preview or “print” FOT reports

Highlighted Changes for Service Pack 6

- Corrected an issue where the Patient Search task did not function with the Chinese translations
- Corrected an error when running Query Database/Patient Query with patient lists that had Orders
- Added the ability to add a visit for a QC subject even if the “Add visits via Orders only” is checked
- Corrected an issue when "Display Ratio Variables As Decimal Fractions" is turned off, the software still used the "Ratio Variables Decimal Places" option rather than the decimal places entered for each variable in Tools>Resources>Variables
- Corrected an issue for FOT variables that were negative (such as Reactance) where a positive Z-Score was reported when it should be a negative Z-Score
- Removed “MGConnect.exe” and placed the functionality into an existing .dll file
- Corrected an issue in the 6 Minute Walk Test where the conversion from feet to meters was adding an extra meter to the distance walked
- Corrected the issue of not being able to perform Exercise Flow/Volume Loops in a unidirectional script
- Corrected the issue of "VO2/Max %" variable not populating
- In the 6 Minute Walk test, there are two areas to enter Comments: Supplemental & Comments. This field was changed to a handle 80 characters

- The ATS Complete and ATS Spirometry TEXT reports had the column headers reversed for %Pred Post and Vol Change. This has been corrected.

Highlighted Changes for Service Pack 7

- Enhanced the O2/CO2 augmentation for the current Ultima Series
- Improved CO2 accuracy when a newer board is present.
- Updated CO DF VO2 Mean & CO DF CO2 Mean BSA to use mean VO2 value from rest
- Changed the calculation of the Post Bronchodilator Response based on the 2021 Interpretive Strategies for PFTs from the ATS/ERS. The FVC and FEV1 only are calculated:

$\text{Bronchodilator Response} = \frac{(\text{Post-bronchodilator value (l)} - \text{Pre-bronchodilator value (l)}) * 100}{\text{Predicted value (l)\#}}$
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This does not affect the calculation for other variables.

- Updated the Export Visit feature to use filters or Patient Visit Limit.
- Changed RTD gain lower limits on hardware using a DLCO RTD sensor.
- Correct an issue when converting Sensor data for Predicted GLI Lung Volumes.
- Corrected an issue where an order was getting removed when the review status was changed in the test mode prior to adding data.
- Correct the ability to sort by either the “Orders” or VisitOrdersIDs” column
- Corrected an issue where 6MWT data disappeared after merging to a Shared Database.
- Enabled printing for ECG Only Scripts. This applies in the GX Test Screen and can be included as report pages

Highlighted Changes for Service Pack 7 Rev B

- Update the installer to allow software upgrade to SP7 from any previous Software 8.6 versions.

Highlighted Changes for Service Pack 7 Rev C

- Updated the digital signature with a more current encryption method (SHA2). No code changes.

Highlighted Changes for Service Pack 8

- Default Standard Deviation for DLCO and Lung Volume variables has been changed to 1.65.
- Added the GLI Global (Race-neutral) 2022 Predicted.
- Update Back Extrapolation limit to <5% or 100ml.
- Update the Default Toolbar Button Size setting to large.
- Update the Default Home setting to display an Empty Frame instead of the Open Patient list.
- Update Factory gain limits for sample flow sensor to 300-450.
- Update DBTools to convert the latest Morgan Scientific database.
- Correct so that GLI predicted will now populate when selecting arm span for all demographics.
- Corrected issue with VO2/work graph lines A and B occasionally appearing to the left of the graph.

- Corrected speed discrepancies caused by rounding; also scaled the TM speed to store 2 decimal places.
- Added a setting for acknowledgement of a locked patient in a Citrix environment, so that multiple staff cannot open and review the same patient via Citrix Review.
- Corrected an issue when consult data was not saving after being launched automatically through Auto-Run.
- Corrected an issue where Borg, Dyspnea and Leg Fatigue was not populating in the GX time down grid.
- Added ability to add SpO2 to ECG only time down scripts.
- Corrected an issue when the SQL connection becomes unavailable after some time has elapsed which would then no longer allow a test to be exported to the results folder.
- Corrected an issue where age was being calculated incorrectly on the visit date of the patient's actual date of birth.
- Corrected an issue where lung volumes were being derived from other variables when GLI was selected for the predicted author.

Highlighted Changes for Service Pack 9

- The RAM treadmill has been added as an External Device available for selection in the Workstation Settings.
- Support for the CPFS/D -906 has been added.
- Corrected an issue when Recovery was selected in BreezeSuite and the device did not move to Recovery.