



BREEZESUITE™ 8.6

Release & Installation Notice

BreezeSuite version 8.6 is the latest version of software available for the Medical Graphics' Platinum Elite™ Series, Elite™ Series, Ultima™ Series, and CPFS/D™USB systems.

CAUTIONS & WARNINGS

► **IMPORTANT SYSTEM INSTALLATION NOTE: Medical Graphics USB Device must be powered on and the USB Device driver must be installed prior to configuring BreezeSuite for first time use. Failure to follow these directions may result in BreezeSuite configuration and diagnostic testing failure.**

► **NOTE:** New Installation of BreezeSuite 8.6 or upgrade from BreezeSuite 7.2 SP7 requires an access code (CD Key) that must be obtained from Customer Service during the software installation. Customer Service is available Monday – Friday 7a.m. to 6p.m. (Central Time) by calling (1-800-333-4137). International customers should contact their local MGC Diagnostics Business Partner. (see upgrade note below)

► Installing BreezeSuite 8.6 on a computer with Windows 7, 8/8.1 or 10 operating system that is controlling a Platinum Elite with a part number that ends with -001 requires a hardware upgrade to the Platinum Elite. Without the hardware upgrade, the Platinum Elite will not function properly. Contact your local sales representative or Technical Support for information on upgrading the Platinum Elite.

► BreezeSuite 8.6 **does not** support:

- Elite Series Plethysmographs with model numbers ending in -001 thru -005
- Ultima Series with model numbers ending in -001 thru -005 unless noted with a label indicating system has been upgraded to -006 compatibility
- BreezeLink HL7 (Link Medical interface)
- CPFS/D spirometer with model numbers ending in -001 & -002.

► Upgrading to BreezeSuite 8.6 is only supported from the following BreezeSuite versions: BreezeSuite 7.2 SP7 and BreezeSuite 8.0 or higher.

**WARNINGS: BreezeSuite 8.6 will not install on a Windows XP computer.
BreezeSuite WebReview is no longer supported in BreezeSuite 8.6.**

► BreezeSuite 8.x added a higher level of security to help customers comply with HIPAA/HITech security requirements. If upgrading from BreezeSuite v7.2 Sp2, all previously entered passwords will be reset and require the configuration of a new temporary password by your designated security administrator prior to users accessing BreezeSuite 8.6. See the Security Administrators Guide located with the installation instructions on the BreezeSuite 8.6 Flash Drive for additional information.

► GLI 2012 and GLI 2017 are the default predicted authors for spirometry and DLco on all new software installations. Installing BreezeSuite on top of an existing installation will not change the previously selected predicted authors.

► **MGC Diagnostics does not have a “back-door” to the BreezeSuite application security feature. If you create a password and the password is forgotten or lost, access to your patient data will be denied.**

CAUTIONS & WARNINGS continued

► When installing or upgrading to BreezeSuite 8.6 the folders listed below (and all subfolders) will be moved from 'Program Files' to 'ProgramData'. Further information on this important change, and the permissions/ rights needed for each folder, is available in the BreezeSuite software installation instructions:

-C:\Program Files (x86)\MedGraphics\Breeze to C:\ProgramData\MedGraphics\Breeze

► When installing or upgrading an Ultima™ CardiO2 ® gas exchange analysis system to BreezeSuite 8.6, the folders listed below (and all subfolders) will be moved from 'Program Files' to 'ProgramData'. Further information on this important change, and the permissions/ rights needed for each folder, is available in the BreezeSuite software installation instructions:

-C:\Mortara Instrument Inc\XScribeII\COMMAND to C:\ProgramData\MedGraphics\XScribe\COMMAND

-C:\Mortara Instrument Inc\XScribeII\CURRENT to C:\ProgramData\MedGraphics\XScribe\CURRENT

► With the 2017 guidelines on methacholine challenge testing, the ERS has determined that best practice is to look at the PD20 value for interpretation rather than the PC20 value. PD20 is the provocative dose that causes a 20% decrease in FEV1. PC20 is the provocative concentration that causes a 20% decrease in FEV1. To this end it is necessary for the user to understand the specifications of the nebulizer used for delivery of the methacholine. The dose at each stage is a combination of nebulizer and protocol used.

From the ERS guidelines, the nebulizer output in mg/min, the % of droplets less than 5 microns, and nebulizer delivery time must be known. From this information the dose at each stage can be calculated. At the time of this publication, only the specifications for the AeroEclipse BAN II nebulizer were known.

In BreezeSuite 8.5 and prior versions, the protocol editor allowed you to enter the concentration and the number of breaths for each stage. In BreezeSuite 8.6 the protocol editor was changed. The column for Breaths was removed and replaced with Dose. (see examples below) When upgrading from BreezeSuite 8.5 or earlier, the previous protocols were automatically converted to the new format. If you continue using PC20, then no other changes should be necessary; however, these protocols should be verified before patient testing. **If using or changing to the PD20 for testing, you will need to create new protocols and enter the appropriate dose at each stage.** The calculation of each dose and examples of this are outlined in Appendix D & E of the ERS guidelines. Below is an example for BreezeSuite 8.6, of a Methacholine protocol using the AeroEclipse BAN II nebulizer for 1 minute at each stage and the quadrupling protocol outlined in the ERS guidelines.

BreezeSuite 8.5

	Stage Label	Concentration	Breaths
1	Pre	0.00000	0
2	Diluent	0.00000	0
3	.063mg/ml	0.06300	5
4	.25mg/ml	0.25000	5
5	1mg/ml	1.00000	5
6	4mg/ml	4.00000	5
7	16mg/ml	16.00000	5
8	Post	0.00000	0

BreezeSuite 8.6

	Stage Label	Concentration	Delivered Dose
1	Pre	0.00000	0.000
2	Diluent	0.00000	0.000
3	0.0156 mg	0.01560	2.000
4	0.0625 mg	0.06250	8.020
5	0.25 mg	0.25000	32.060
6	1.0 mg	1.00000	128.250
7	4.0 mg	4.00000	513.000
8	Post	0.00000	0.000

System Specifications and Prerequisites: For complete listing, see Installation Instructions available on BreezeSuite 8.6 installation USB Drive.

SYSTEM SPECIFICATIONS FOR WORKSTATION COMPUTER

Operating System	Windows 7 (Pro, Ultimate or Enterprise) Service Pack 1 Windows 8.1 (Pro or Enterprise) Windows 10 (Pro, Enterprise or Enterprise LTSB)
Processor	Intel Core Duo or Greater Recommended
Hard Disk	80+ GB Recommended
Memory	3+ GB Recommended
Windows Display Properties	1024 x 768 Minimum Resolution
Other Hardware	3+ USB-A Ports if client connecting to diagnostic device 8+ USB-A Ports for Ultima Series Gx Systems
System Type	x86 (32-Bit) and x64 (64-Bit) PC hardware and operating systems are supported.

NOTE: Ultima™ Cardio₂ X-Scribe 3.x gas exchange analysis systems DO NOT support x 64 (64-bit) operating systems.

Installation Instructions:

Place the USB Drive into the computer. Using Windows Explorer, browse to the USB Drive and run (double click on) the “Launch.exe” file. Select **Install Software**, then **Installation Instructions**. The Installation Instructions can be printed from the USB Drive. **NOTE:** The installation instructions are in PDF format. If Adobe Reader is not installed on the computer, select Install Software, then Adobe Reader to install Adobe.

After the software has been installed, follow the Computer Configuration Instructions: Run the “Launch.exe” file, select Install Software, then Computer Configuration .

Translations: The translation files for Portuguese, French, Chinese and Spanish are in separate executable files and are not on this USB Drive.

Highlighted Changes from BreezeSuite 8.0 to BreezeSuite 8.1

- Corrected issue of not being able to advance the Review Status by more than one increment.
- Added PC value to BRP Trend Tab in Breeze Review
- Increased the font size of the PC value in the BRP Graph
- Corrected ISO Volume correction alignment in FVC graph when aligning flow/volume loop to Residual Volume
- Corrected calculation of PC value when subject responded to first stage of bronchial provocation challenge
- Corrected issue to retain graph properties in Breeze Review
- Corrected issue of not being able to access exercise statement dictionaries
- Added the ability to change the decimal places for Dose, Does Units and CDUs in the Final Report
- Added ability in DBTools to sort by date when viewing an import list of visits
- Corrected issues of an RTD system not displaying the DLco RTD Tab
- Enlarged the font of the words Inject and Withdraw in the flow calibration screen
- Added Gx variables VO₂/VE & VCO₂/VE
- Added 9 Panel Graphs to Breeze Review
- Added ability to delete patient visits from Query Database while deleting them from the central BreezeSuite database
- Added ability to Delete patient visits from DBTools when exporting visits
- Added the ability to type in more than one letter in order to go to a physician in the list for Referring, Reviewing or Pulmonary physician
- Added a delay when double clicking on the “Recovery” button in Gx testing to prevent from going immediately to stopping the test by mistake
- Corrected MFC Application Error when switching from one test tab to another
- Improved the installation of a Multi-user Server Upgrade
- The Order Modified Date value is now included in the Export/Import file
- Added the Order ID to the exported SUM file
- Updated equations for Carbohydrate gm/day and Fat gm/day
- Corrected MFC Application Error with Security option turned off and selecting to list patients as Visits
- Corrected issue of converting SensorMedics CPX data
- Corrected rounding of values between PDF file and SUM file
- Add the ability to batch export PDFs or Sum files after all patients have been reviewed in Breeze Review, rather than after each individual patient’s review was complete

Highlighted Changes from BreezeSuite 8.1 to BreezeSuite 8.2

- Added support for redesigned Ultima Series
- Added support to function on a Windows 8/8.1 computer
- Added a function to automatically flush the DLco gas on a Platinum Elite DL system if it has been at least 4 hours since the last flush
- Added the ability to open an existing visit that has one or more “Orders” assigned via: Orders Dialog button, Open Patient dialog and Open Visit dialog

- Corrected an issue where the system was sending a message to the database every 10 seconds. This caused intermittent communication errors or flow trace stuttering during flow calibration
- Added the ability in the Post Test Comments dialog for the technician to select which PDF report to export in Breeze Review
- Added the ability to have a shared folder listed as the export directory for exported files
- Corrected an issue in Breeze Review where the time variables were being rounded instead of using the actual time in minutes and seconds
- Added the ability to have ICD-10 Code, description and Group Code to the Diagnosis dialog
- PF Trend and GX trend now support local date settings such as “dd/mm/yyyy”
- Changed the REE Kcal/day and Adjusted REE to use the same averaging settings
- Added ability to export Trend Reports through Web Review
- Corrected issue of receiving an error message in BreezeSuite after exporting visits from Breeze Web Review
- In Pulmonary Custom Consult, corrected an error when trying to create a rule based on Sex or Race
- Added Exercise Oscillatory Ventilation (EOV) Tab and functionality in the GX Tabs
- Added Doctor IDs 1,2 & 3 (Referring Doctor, Reviewing Doctor & Pulmonary Doctor) as well as Technician ID, Diagnosis, Account #, Room #, Comments and Medication to the Order Table when receiving Orders from hospital EMR
- Updated the Patient Query Option to function with SQL 2012
- Enhanced the conversion of SensorMedics data into BreezeSuite
- Corrected the issue of the BRP Trend view not updating when only ABG values are entered in different stages
- In Breeze Review Trend Tab, added the ability to sort by Visit date (ascending or descending)
- Added the ability to view the calibration log when no hardware or system is attached to the computer by going to: File>Open>Calibration Logs and Reports
- Corrected the issue where physician interpretation was appearing before the technician comments in a configuration of PF Pages when both were selected. PF Pages now puts the physician interpretation after the technician comments
- Corrected the issue of not being able to change the X Axis properties in the Window Tab of Gx testing
- Corrected issue of not being able to select visits in the Trend Tab of Breeze Review
- Corrected issue of font size reducing after printing or previewing the BRP Trend page
- Added ability to perform Hypercapnic and Hypoxic P100 studies on an Ultima PFx Tab 6
- Corrected issue of the text report name not being entered into the HIS Sum file when exported from Web Review
- Corrected issue when using the NICO or Exercise Flow Volume Loop Options where the External Deadspace in the Settings Tab would switch to zero

Highlighted Changes from BreezeSuite 8.2 to BreezeSuite 8.3

- Added support for Windows 10 and SQL 2014
- Added ability to export to multiple locations. The Export/Import Tab has been separated into two tabs. The Export Tab now contains a spreadsheet that allows the user to set up auto export for PDF report, Text report, COW files, HIS (SUM) files and HLF export (if turned on)
- Added 4 Review Status selections to the drop down list: Amended Review (indicates a test is being amended and reviewed), Amended+Posted+Locked (reapplies electronic signature if active, locks the study and posts the results), Corrected Review (indicates a test is being corrected and reviewed),

Corrected+Posted+Locked (reapplies electronic signature if active, locks the study and posts the results)

- When merging to the Shared database, the software will allow the operator to choose whether or not to merge the PF Predicted Set, Gx Predicted Set or Reports into the shared database.
- Added an Alert Message to the Patient and Visit list dialogs when there are any pending export visits for the current workstation. The operator can then view the list and export the tests.
- Added the ability to prevent a user from adding a visit without going through the Orders screen. The Order Tab in options has a checkbox that when checked, the “AddVisit” button on the Patient dialog screen is disabled.
- Improved the performance when reviewing multiple patients in Breeze Review.
- Added the ability for users to assign and un-assign orders to multiple visits in BreezeSuite.
- Corrected an issue where the Request Date Time column in the Order Entry dialog box did not sort correctly.
- Added “Second ID” and “Patient ID” to the Demographics Section of Breeze Review.
- Corrected an issue of the ECG Summary report printing the treadmill report when a cycle test was performed.
- Enabled the Calibrate, Zero Flow and Gas AutoCal buttons after the user selects the “Restart” button.
- When the user selects the “rebreathe” option for ventilator testing, the Breath Detect Mode automatically switches to “flow only”.
- If the user selects the Recovery button during Gx testing, the user will be asked to confirm.
- Added the following data types to Query Database: LLN, ULN and SD. The user can query on these data types.
- Added support to import data from the Remon Pro FOT device into BreezeSuite. The user can also input patient demographic data into BreezeSuite and send that data to the FOT so patient information does not have to be entered twice.
- The FOT variables are available in a final report as well as Trend Report and Trend Graph
- Added the ability to plot “% Predicted” on the same Trend Graph as measured values
- Added a Gx Time Down Tab in Breeze Review
- Addressed the issue of communication with Mortara X-Scribe software during “ECG Only” testing which caused loss of ECG data or lockups
- Added support for the Ganshorn/CustoMed ECG Un-directional protocol
- Added the ability to activate, deactivate or combine multiple staff members at a time without leaving the “Open Staff” dialog.
- Corrected print issue with AT Graph.
- Corrected units conversion (SI to English) in Query Database.
- Added the ability to have the Disability Report attached to the normal printing process. Users can insert the Disability Report to the Print, Preview and Export functions.
- Disabled the ability to go to the Pulmonary Consult Dictionary when Breeze Review has a patient visit open
- Added ability to “auto run” Post Test Comments and Pulmonary Consult when exporting text reports
- Every other line in Trend Tab is now shaded for better visibility
- Improved the performance when exporting multiple PDF reports
- Improved performance when closing a patient visit after exporting a report that contained Trend data
- Improved Race designation when converting Collins XML files into BreezeSuite
- Added default graph properties for graphs in Breeze Review. Previously the user had to configure the graph properties when using Breeze Review for the first time

- Improved the application of Filters when “Include patients with no visits” is selected
- In Breeze Review, corrected an issue when inserting statements - after the 2nd inserted statement, the period would not shift its’ position
- Corrected the issue of Custom Consult truncating the “% Predicted” values
- Corrected issue of Watts and RPM not being displayed when in Recovery phase
- Added the ability to display the Aux Data fields in the Trend Tab of Breeze Review
- Added 4 Text reports with Challenge or Stage columns
- Corrected an issue where Pulmonary Consult would not appear on final report
- Corrected issue of Trend report pages not displaying when previewing the report
- Added the ability to perform Hypoxic and Hypercapnic P100 studies on a Ultima Tab 6
- Corrected an issue when saving a test from the SVC Tab
- Corrected an issue of not being able to go into Test Mode when “Include patients with no visits” is selected in the Open Patient Screen
- Added the ability to calculate Breathing Reserve (% and L/min) based on the Predicted Max VE calculation as defined in the Gx Predicted Set
- Corrected issue for fixed predicted values where the users settings were not being saved for: VE/VCO₂ and VE/VO₂
- Added a Consult Only Text report
- Added default authors for VO₂/VE & VCO₂/VE predicted values
- The Clear HIS Demographics menu in DBTools has been changed to Reset HIS Parameters. Selecting this menu will bring up a Reset HIS Parameters dialog. User can check any combination of: “Reset Demographic Parameters”, “Reset PF Test Parameters” or “Reset GX Test Parameters”.
- Corrected an issue when switching between preVent Flow Sensor and Direct Connect Flow Sensor: The calibration factors automatically update to the preVent Flow Sensor
- Corrected an issue where the External Deadspace in the Setting Tab would intermittently switch to zero when using the NICO or Exercise Flow Volume Loop options
- Corrected issue in Breeze Review graph properties where changes would not save if the Security option was not active
- When a report is printed that has both the Interpretation and Post Test Comments active in the PF Pages Configuration, the Post Test Comments now appear before the Interpretation. Previously the Post Test Comments followed the Interpretation section.
- Corrected the calculation of CHO (g/day) and Fat (g/day)
- Improved the functionality of the “Find” button in the Batch Export Visits screen
- When installing on a Citrix Server, BreezeSuite no longer requires a CD Key to install
- Corrected an intermittent issue where the treadmill would go to 0.5 mph instead of zero when user selected the “Stop Treadmill” button
- Improved the speed of SUM file creation when exporting the SUM file
- Improved software to identify and confirm the highest measured VO₂ between the start of exercise and start of recovery.
- Improved functionality in Breeze Review when using the Select Visits option on the PF Trend graph
- Corrected an issue where the “Review Mode Only” allowed users to access the Test Mode in Visit Selection

Highlighted Changes from BreezeSuite 8.3 to BreezeSuite 8.4

- Added two new variables: VA/TLC(pleth) and VA/TLC(N2)
- Added the ability to lock the Export fields within BreezeSuite via Security/Roles
- PCx and Challenge/Max Response variables have been added to the variable list for SUM file export to EMR
- The visit order date for Trending visits in Breeze Review is based on the setting in the F5 Options Trend Tab
- Order IDs and Order Visit IDs have been added to the Open Patient/Visits screen as well as Breeze Review
- The Order Visit ID is now displayed in the orders spreadsheet in the Visit Order Tab
- Corrected issue of the LLN and ULN for GLI 2012 having a slight difference from the GLI website calculator
- Corrected issue within Protocol Log Tab when editing a Protocol
- Added a “Reset Filters” button to the Open Patient and Open Visits dialog
- Added the ability to print the list of authors from the PF Selected Author Set
- Removed the use of the Tab Key when typing a Pulmonary or Exercise Consult
- Added functionality for new face tent fan assembly
- Added the ability to Lock the location of the BreezeSuite Toolbars and Reset the location of the Breeze Review toolbars via View>Toolbars
- Added a “Miller Non-Smoker” DLco predicted author which does not adjust the DLco predicted value based on the patient’s smoking history
- Added %Change for each variable in the BRP Tab in Breeze Review
- Added %Change for each variable in the Trend tab in Breeze Review
- Added functionality for Analog I/O Controller for redesigned Ultima CPX
- Added the ability for BreezeSuite to be installed in a Citrix environment without the need of a local SQL database
- Pulmonary and Exercise Consults now wrap to the next page if there is not enough room on the current page
- Decreased the font size of the PC and Sensitivity label on the BRP Graph
- Updated the audit trail to add additional fields
- Active Directory is now integrated with BreezeSuite. Logging into Windows operating system can also log you directly into BreezeSuite
- In the Pulmonary and Exercise Consult options, user can select whether or not to include the physician name in the consult dialog
- Added OUES and VE/VCO2 Slope values to the SUM file export
- Modified Gutierrez 2004 ratios to be whole numbers rather than having decimal places (80 vs .80)
- Modified Gutierrez 2004 MIP predicted to be a negative value (original article had it a positive value)
- Added Standard Deviation for Gutierrez 2004 MIP/MEP variables
- Corrected issue in Breeze Review where custom reports with Test Views would cause MFC Application errors
- Corrected issue where the Peak Flow (FEFmax) value was not consistent with the graphic value on very sharp peak flows
- In the Workstation settings, added new entry for Distal Dead Space for adapters between the preVent flow sensor and the patient circuit

- Corrected issue when switching back and forth from Local to Shared database.

Changes from 8.4 Service Packs

- Updated text reports to include header and history section.
- Corrected issue with clinical link between BreezeSuite and Welch Allyn CardioPerfect ECG software.
- Corrected issue with blank pages on a GX report.
- Corrected issue with PF/GX trend data not updating in Breeze Review in between reviewing patient visits.
- Corrected issue with adjusting dead space values on GX scripts.
- Improved interface between FOT and BreezeSuite.
- Integration of X-Scribe 4.0 CPI (cardiopulmonary interface).
- Corrected issues with active directory integration.
- Corrected issues with FOT graphs and labeling.
- Updated default FOT report and screen configuration graphs.
- Corrected issue related to auto filters and staff login settings.
- Corrected issue with Breeze Order Entry that allows users to cancel orders regardless of current order status.
- Corrected issue with ExFVL default graph configuration.
- Corrected assert error issue indicating decrypted passwords do not exist in database if password entries are different between local and shared database.
- Corrected issue with External Device Calibration record when refreshing local database.
- Corrected issues related to DBTools identifying active directory server based on domain.

Highlighted Changes from BreezeSuite 8.4 to BreezeSuite 8.5

- Added the Lung Volume bar graph to Physician Review
- Changed the Acceptability and Repeatability criteria for DLco testing to match the ATS/ERS 2017 Guidelines.
- Added the 2017 ATS/ERS DLco Guidelines Test Quality Grading available in the DLco Test Screen & Final Report.
- Added new controls in the F5 Options dialog (General Tab) to change font size for the data tables in the test screens and Breeze Review, as well as the font size for the printed report.
- Added the ability to reselect Race entry when you open a patient visit, rather than having to go to Edit.
- To improve database performance, changed BreezeSuite multi-user to only copy modified resources and patients to the local database when logging in or out of BreezeSuite or switching to local mode.
- Allow the user to remove or cancel multiple orders at one time.
- Added a Z-Score graph to the Final Report and Breeze Review.
- In the Final Report, added the ability to shade every other line to make the rows easier to read. This option is turned on in F5 Options – PF Pages Tab.
- Added the ability to have ratios such as FEV1/FVC as either a decimal fraction or a whole number. This option is configured in the F5 Options Units Tab.
- Added a column for Volume Change from Pre-Bronchodilator to either Challenge or Post-Bronchodilator stages. This option is available in the report column headers of PF Pages Tab.
- Added Spirometry Test Quality Grading according to NLHEP and Spirxpert – user selectable in the F5

Options Menu – FVC Tab.

- Added the ability to lock and unlock roles in Security.
- Added the ability to Export/Import PF and Gx Predicted Sets in DBTools.
- Created an Order Status Display filter for Open Patient list. This allows BreezeConnect users to restrict the patient list to those patients that have orders with a specified status.
- Added a “Technician Select Reports” role in Security Roles. This role determines if the user has the ability to select a specific report for export in the Post test Comments dialog.
- Corrected an intermittent issue where the ECG Only flag was getting set incorrectly on Gx tests.
- Allow the user to expand the Post Test Comment dialog box.
- Added the ability to view Billing Modifiers, Hospital Charge Code (CDM Code), Procedure Codes (Professional CPT Code) and Diagnosis Codes (ICD-10 Codes) in Breeze Review.
- The exported data file (SUM file) has been updated to include the above.
- Corrected an issue with the legacy Ultima to allow face tent testing with the legacy fan assembly.
- Corrected an issue with a blank page being inserted into the ExFVL report when only the graphs were selected to be printed.
- Added support for the Tab 004 CPFS/D spirometer.
- Added an additional 80 Aux Data fields, which brings the total Aux Data fields to 100. Only the first 20 Aux Data Fields are checked to display by default. Additional fields can be activated in F5 Options - Visit Tab.
- Modified the calculations for % Change and % Predicted Change to be the same in terms of rounding to the next number.
- Resized the FOT graphs so that the data table and graphs are on one page.
- Added the Gutierrez 2004 predicted author for TGV. Previously it was on FRC(N2 Washout) only.
- Changed the “Sensitivity” label on the bottom of the BRP Trend graphs to PD20.
- Added a PD column to the BRP Trend Tab in the data table. This can also be printed in the Final Report. The PC20 and PD20 are separate options in the F5 Options dialog of BRP Trend Tab.
- Added CO Index (Direct Fick) variable.
- Added CO (Direct Fick) VO2 Mean variable called: “CO DF VO2 Mean”.
- BreezeSuite now displays a message recommending to perform a gas calibration immediately prior to starting a gas exchange test. The message will appear if it has been over 5 minutes since the last gas calibration.
- Updated the derived Treadmill Watts equations.
- Added the ability to have User Defined/Selected predicted values for HR Max. This is configured in the Selected Author Tab of the GX Predicted Set.
- Changed the method of determining Exercise Oscillatory Ventilation (EOV). BreezeSuite now uses the average resting VE instead of resting VE amplitude.
- Added the ability to interface with the Zephyr Heart Rate Monitor.
- Added the variable VCO2/Flow
- Added variable and tab for Chronotropic Index.
- When reopening an existing visit and going into a test tab, BreezeSuite will automatically display the graphs of all selected efforts.
- User authentication has been updated to allow for integration with Active Directory in both an automatic and manual method. Users can be authenticated and logged into the BreezeSuite application automatically based upon the Windows credentials of the hosting computer. The BreezeSuite application can also be configured to ask the user for their Windows credentials which are then authenticated via Active Directory.

- This update allows for all application user accounts to be managed at the domain level.
- Disabled the File/Exit menu button when a patient visit is open in Breeze Review.
- Corrected an issue where communication would drop out (watts & RPM) between the Ergoline ergometer and the Ultima when a blood pressure measurement is taken.
- Corrected an issue where Diagnosis entries could not be deleted.
- Added an option to determine if the patient list should be refreshed every time the patient list is displayed. This option is configured in F5 Options – Patient Tab.
- Enhanced the search option when searching for a physician, technician or site name in the filter drop-down box. Previously only able to type in the first letter. Enhanced to be able to type in multiple letters.
- Updated the installation to install Microsoft SQL Server 2014 Express instead of SQL Server 2008.
- Corrected an issue where audit changes to staff were not being tracked.
- On systems entering new visits via “Orders” only, added the ability to manually enter a new visit for a Syringe Study or Biologic QC Subject by unchecking “Add Visits via Orders Only” checkbox in F5 Options – Orders Tab.
- Added a “Biologic QC Subject” checkbox on the patient dialog screen to designate this subject as a Biological QC test.
- Corrected issue of duplicate Staff entries when merging from Local to Shared database.
- Added Order ID and Order Description to text report headers.
- Added new text report, “Complete Report w/Post Pred”, that includes Post % Predicted.
- Added the ability to make the Physician drop down entries a required field. This is set in F5 Options>Visit Tab.
- Corrected issue of graph settings when a second page was added to a report with the graphs on the side.
- Added Exercise Consult to the report header options.
- Corrected an issue where Order IDs were not getting deleted and are visible in the Patient Visit Tab.
- Corrected an issue where the calibration factors for TcpCO2, Sweat and Body Temperature were not being saved.
- Increased the Order ID character length to 30 characters.
- Corrected an issue where Orders were not staying assigned to patients with prior visits when navigating between the previous visits prior to saving the changes.
- Corrected an issue where the physicians name was duplicated on the PF and GX consults.
- Created a “GX Other” Tab in Breeze Review for displaying OUES Slope, VE/VCO2 Slope, VO2 Work Slope and Chronotropic Index.

Changes for BreezeSuite 8.5 Rev C

- Added Digital Signature to installation files.

Changes for BreezeSuite 8.5 Rev D

- Added Digital Signature to all all .EXE, .OCX and .DLL files.

Changes for BreezeSuite 8.5 Rev E

- Removed Digital Signatures on USB driver installation executables to correct installation issue on Windows 10 operating systems.

Highlighted Changes from BreezeSuite 8.5 to BreezeSuite 8.6

- Added the software option for the 6 Minute Walk Test (6MWT). This test is a software option and is activated via a CD Key. When activated, a new test tab is displayed on the bottom of the BreezeSuite screen. A 6MWT Tab was also added to Breeze Physician Review. This test supports the Nonin 3150 WristOx Oximeter. Note: BreezeSuite does not support the **Nonin 3150 BLE** WristOx.
- Two new reports for the 6MWT.
- Changed the label for “Unspecified” race selection to “Other” to conform to the Global Lung Initiative standards.
- Improved the functionality of the Protocol Editor to more easily accommodate the ERS Methacholine guidelines. The Protocol Editor was changed to remove the column for Breaths and replaced it with Dose. The user must enter the “delivered dose” for each stage, rather than multiplying the concentration by the number of breaths. The value for PD20 is calculated on the delivered dose for each stage. Mannitol PD15 is calculated on Cumulative Dose Units. The user must indicate if they want PCx or PDx on the report.
NOTE: Previous Methacholine Protocols were converted automatically. Per above, the Breaths column was replaced by a Dose column. The dose was populated based on the concentration for that stage multiplied by the number of breaths.
- For both Methacholine and Mannitol testing, added a message that warns when the patient has had a decrease in their FEV1 based upon the PD value set in the protocol. Also added a message when the FEV1 decreases by 10% from the previous dose.
- Added a test summary application (TestSum) to the Start Menu which allows the user to calculate how many PF tests and the type of test that were performed.
- For new installation as well as upgrade from previous versions of BreezeSuite, the software installs or updates to SQL 2014 Express.
- Added the ability to modify Pre and Post Test Comments in the Physician Review Mode.
- Increased the character length for statements in the Statement Dictionary to 1000 characters.
- Added the ability to label and report ExFVL efforts by stage.
- Added the following variables to Custom Consult and Patient Query: VO2/Work Slope, OUES, VE/VCO2 Slope, EOv (0 or 1 value) and Chronotropic Index.
- Added the ATS grades for FEV1 and FVC to Custom Consult and Patient Query.
- Added the ability to convert SentrySuite pulmonary data in DBTools.
- Added the ability to make the Reviewing Physician entry required in Breeze Review. Also added the option to have the Reviewing Physician autopopulate in Breeze Review. Both of these are controlled in the F5 Options screen – Review Tab.
- Added the Post Test Comments on “Reason Exercise Stopped” and “Exercise ECG Interpretations” into the Interpretation Section of Exercise Consult.
- Added two new FOT reports: “FOT 5 Hz w/Spiro/SVC/Interp” and “FOT 5-1-19 w/Spiro/SVC/Interp”.
- Increased the max volume limit on the Flow/Volume graph from 10 liters to 20 liters.
- Corrected issue where the Lower Limit of Normal was slightly different for FVC and SVC, even though the predicted values were the same.
- Added a new option in Security>Breeze Review Section, that prevents the user from making changes to the Export Settings in Breeze Review.
- Improved the communication with the Zephyr Heart Rate monitor
- Improved the functionality of the Lung Volume Bar Graph
- Changed BreezeSuite login so that the user’s Password cannot be the same as the user’s Login Name.
- Added the integration of BioHarness 1-lead ECG.
- Added additional checking for conflicts when importing patients that may have the same ID.

- Corrected an issue where a variable that was using a Fix Predicted Value was not displaying the correct value.
- Added the ability to change the names of the databases during installation.
- Added the ability to report three VE/VCO₂ Slope values including from start of exercise to AT, RC, and the entire exercise window by default. The ability to have a user-defined VE/VCO₂ slope still exists.
- Added the Woodway treadmill protocol.
- Added the Test Grade for DLco efforts to Patient Query as well as Sum, Audit, Text and PDF reports.
- Corrected an issue of the DLco predicted values not calculating when converting SensorMedics patient files. Also corrected issue of corrected DLco for hemoglobin when hemoglobin is entered as a blood gas variable.
- In Custom Consult, added visit qualifiers for demographic information (Current Visit, First Visit, etc).
- Corrected MFC Application Error when the OUES and EOVS tabs are displayed.
- Corrected issue of Aux Data Fields appearing in red.
- For new networked installations, added the “No Local” database check box. If a No Local installation already exists, it is automatically detected.
- Added the ability for the user to limit the number of patients or visits displayed in the Open Patient or Open Visit screen. The default is On and set to 500.
- Expanded the Aux Data Field window in a report.
- Created a new Ideal Body Weight predicted author: “Peterson, Thomas, Blackburn, Heym”.
- Added new VO₂ variable relative to Ideal Body Weight: VO₂ (mL/kgIBW/min).
- Added Ideal Body Weight to patient demographics.
- Added a new column for “Max Value Exercise” in the CPET Summary Report.
- Corrected issue of the SVC predicted value not being displayed in the test screen.
- Improved the grading of DLco efforts after an effort has been performed and that effort has a larger IVC, thus creating a new target for IVC. The software only takes the largest selected VC for the target, not a non-selected VC.
- Improved the anchoring of tidal breaths with the IC measurements for ExFVL testing.
- Corrected MFC Application Error when DOB is entered as Today’s date.
- Improved the reporting of Z-Scores for variables that are ratios, such as FEV₁/FVC.
- Corrected issue when combining patients was not updating the patient’s date of birth.
- Corrected issue of the FEV₁/SVC not being calculated when converting SensorMedics data.
- Improved the functionality of the Override button when using the Customized ECG.
- Removed the comma between state and zip code in PDF and Text reports.
- Verified that PETO₂, PETCO₂ and Speed are displayed the same in Text and PDF reports.
- Corrected issue of not being able to adjust race when creating a new visit from an Order.
- Added a new variable to calculate Cardiac Index (CI) by using the calculated CO-Direct Fick variable (CO DF-VO₂ Mean value).
- Corrected issue of disabling Predicted Sets.
- Changed the frequency at which GX test data is auto-saved during a test from 50 seconds to every 15 seconds.
- On a new install, changed the location of the Mortara XScribe files to: C:\Mortara Instrument Inc\XScribeII\COMMAND and C:\Mortara Instrument Inc\XScribeII\CURRENT. Details are available in the CAUTIONS & WARNINGS section of this document.
- Corrected issue of Breeze closing on its own when an error message “Mortara is not responding” and an

MFC Application Error is displayed when saving Mortara files.

- Improved the functionality of Auto Logout in Physician Review.
- Improved the graph properties when “All Selected” is chosen.
- The version of SQL installed is now SQL 2014 Express SP3.
- Improved the Flow Calibration graph in calibration when performing a slow stroke that extends beyond 15 seconds.
- Corrected an issue where the Aux Data Field variables were not being included in Delay Export.
- Added a “Config Patient Options” option in User Roles to verify if a user can modify patient options such as Visit List Limit.
- Added the ability to modify, upload and save ECG PDF Summary reports to the BreezeSuite database where the ECG PDF Summary reports are currently stored.
- Added Test Description for Orders to the Header on PDF reports.
- Corrected the calculation of VO2 based on the GX Predicted author “Blackie”.