MVP**ICON**™

USER GUIDE

Test Results

PASS

1.3
3 12/1/12 04:15
SLICER
2.5 Warn 3.0 Fail
Re-Test   Yes
Code

Plans Points Results Device

MVP
ICON

BIOCONTROL

Results. Right now.

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Introduction

The LIGHTNING MVP ICON™ is a multi-parameter HACCP monitoring system to monitor key quality indicators such as ATP, pH, temperature, conductivity, and concentration. The included MVP ICON Dashboard software allows for easy trending and analysis of results. The software's dashboard provides an overview of key control metrics at a glance.

Below is a description of each of the parameters measured by the MVP ICON.

ATP

Adenosine triphosphate (ATP) is present in all living cells including food residues, bacteria, yeast and molds. Testing for ATP is highly useful as an indicator of cleaning verification within a food manufacturing facility. Detecting its presence indicates a surface or liquid contains organic matter. If ATP is present, the potential exists for contamination of food or beverages coming into contact with the surface or liquid containing ATP. Surfaces contaminated with ATP lead to issues with product quality and pose a threat to public health.

pH

Monitoring the pH of foods is a vital step in producing a safe, quality product. Maintaining the appropriate pH level is an important factor in food manufacturing as pH is often related to the physical and chemical reactions that take place during production.

Temperature

Certain manufacturers produce foods that require the product to maintain a specific temperature during the production process. Monitoring temperature prevents products from allowing certain organisms to grow and thrive, therefore contaminating the product and leading to public health and product quality issues.

Conductivity

Conductivity, measured in microSiemens (µS), is a material's ability to conduct an electrical current. The higher the conductivity, the less pure a source will be. Conversely, the lower the conductivity, the more pure the source will be.

Concentration

Accurately measuring cleaner and sanitizer concentrations is a crucial element to protecting food quality. Excessively high concentrations of chemicals are costly and can lead to the damage of equipment, product, and potentially harm operators in contact with the solution. If a chemical's concentration is too low, it can allow for the potential growth of pathogenic organisms leading to public health and product quality issues.

Materials and Equipment

The LIGHTNING MVP ICON is a multi-parameter HACCP monitoring system. The MVP ICON utilizes accessory probes and sampling devices to measure and record key HACCP parameters including ATP, pH, temperature, conductivity, and concentration. The included MVP ICON Dashboard software allows for easy trending and analysis of results. The software's dashboard provides an overview of key control metrics at a glance.

Included in the Box
- MVP ICON instrument
- MVP ICON Dashboard software CD
- USB cable
- AC adapter (US)
- International adapters
- Shoulder strap

ATP Supplies (Purchased Separately)
- LIGHTNING MVP ICON Surface Sampling Device - for detection of ATP on surfaces
- LIGHTNING MVP ICON Liquid Sampling Device - for detection of ATP in Clean in Place (CIP) rinse water and other liquid samples
- LIGHTNING MVP ICON ATP Calibrator Set – for calibration and verification of the ICON instrument for accurate detection of ATP
- LIGHTNING MVP ICON ATP Positive Control – a lyophilized, stable preparation of a known concentration of ATP for routine verification of the ICON system's performance

Conductivity and Concentration Supplies
- MVP ICON Conductivity Probe - for measuring conductivity of liquids and determining chemical concentration of sanitizers and cleaners
- Conductivity Standard (500 μs) – for calibration of MVP ICON Conductivity Probe

pH Supplies
- MVP ICON pH Probe – for measuring pH and temperature of solutions
- pH Calibration Standards (pH 4.00, pH 7.00, and pH 10.00) – for calibration of MVP ICON pH Probe

Temperature Supplies
- MVP ICON Temperature Probe – for measuring product temperatures

MVP ICON at a Glance

Instrument Overview

Home Screen and Navigation
The MVP ICON features a pressure sensitive color touch-screen display that can be operated while wearing gloves and is suitable for use under all lighting conditions.

The home screen of the MVP ICON lists pertinent statistics about the unit based on the parameter selected, including:
- Number of test points, sample plans, and results stored on the instrument
- Available memory
- Serial number
- Date of last ATP calibration
- Last date of upload to ICON software
- Available battery charge

The parameter selection bar at the top of the screen is used to select the desired parameter (ATP, pH, Temperature, Concentration or Conductivity) for taking new readings or viewing stored results.

The buttons on the bottom of the screen are used to access the following functions:
- Plans – allows the user to select a specific sample plan
- Points – allows the user to select a specific test point
- Results – provides a list of recorded results for each test point
- Device – provides access to the instrument specific settings including screen brightness, volume, language, date and time, deleting results, and calibration

Switch between measurement parameters

Move back one screen

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Test Points	232
Sample Plans:	12
Test Results:	5001
% Memory Free	46
Last Cal:	01/10/13
Last Upload:	01/01/13
% Battery Charge:	100

Plans   Points   Results   Device

Access a list of test points, sample plans, results or change instrument settings

To preserve battery life, the MVP ICON screen will automatically dim after one minute of inactivity and turn dark after two minutes. To awaken the instrument, simply touch the screen. After three minutes of inactivity the MVP ICON will completely shut down.

Calibrating the Touch Screen
When the MVP ICON is powered on the touch - screen calibration function will be available for two seconds. Touch the screen to initiate the calibration process.

Note: Calibrating the touch screen requires precisely touching specific areas of the screen. This procedure should be performed using the blunt end of a pen, an MVP ICON sampling device, or similar stylus-like object.

Self-Diagnostic
When the ICON is powered on, the instrument will perform a 45 second self-diagnostic and record a baseline reading. The chamber must be empty during the initial startup procedure.

Points

Points

The "Points" tab on the bottom menu of the ICON contains a list of all created test points in numerical order, independent of sample plan assignment.

Selecting a Test Point

- Scroll through a list of test points in numeric order using the scroll bar on the right side of the screen

Search for a specific test point

Quick Test
See Chapter 8

Test point number

Scroll Bar

Test point name

Total number of test points assigned
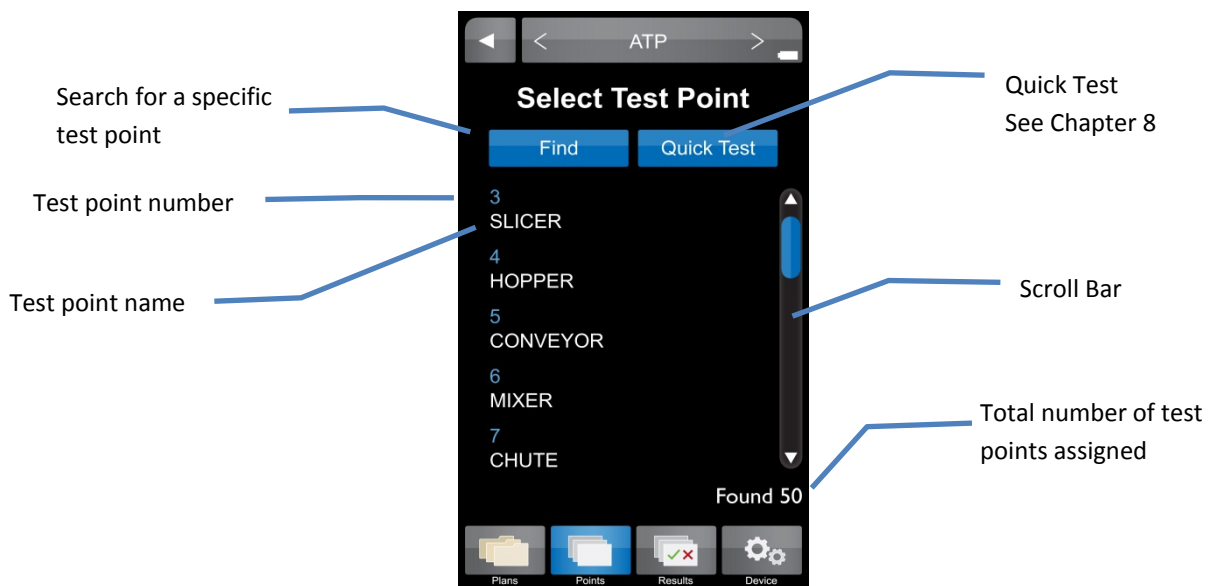
Further details for each test point can be found by selecting the desired test point.

Test point number, name, and Warn/Fail thresholds

Re-Test
See Chapter 7

Code
See Chapter 9

Instructions for inserting swab

Press to run sample
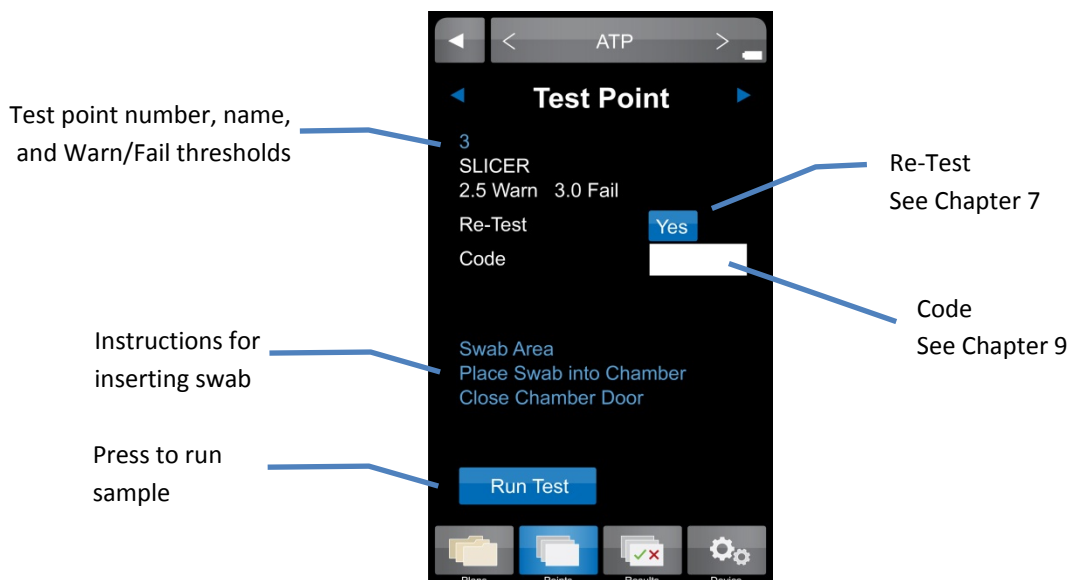
Finding a Test Point

If a test point (or range of test points) is not readily available on the instrument screen, the "Find" feature within "Points" can be used to search for specific test points.

- To search for a range of test points enter the first and last test point number in the range
- To search for a single test point enter the test point number as the beginning of the range and leave the end of the range blank

Note: To clear a field entry, press the "X" next to the associated field.

- *The < and > buttons on the bottom of the key pad will clear entries or tab to the next field*

Enter individual test point number or range

Find

Enter Test Point or Range:

1	2	3
4	5	6
7	8	9
<	0	>

CANCEL   OK

Use these buttons to clear entries or tab to next field

Plans

3
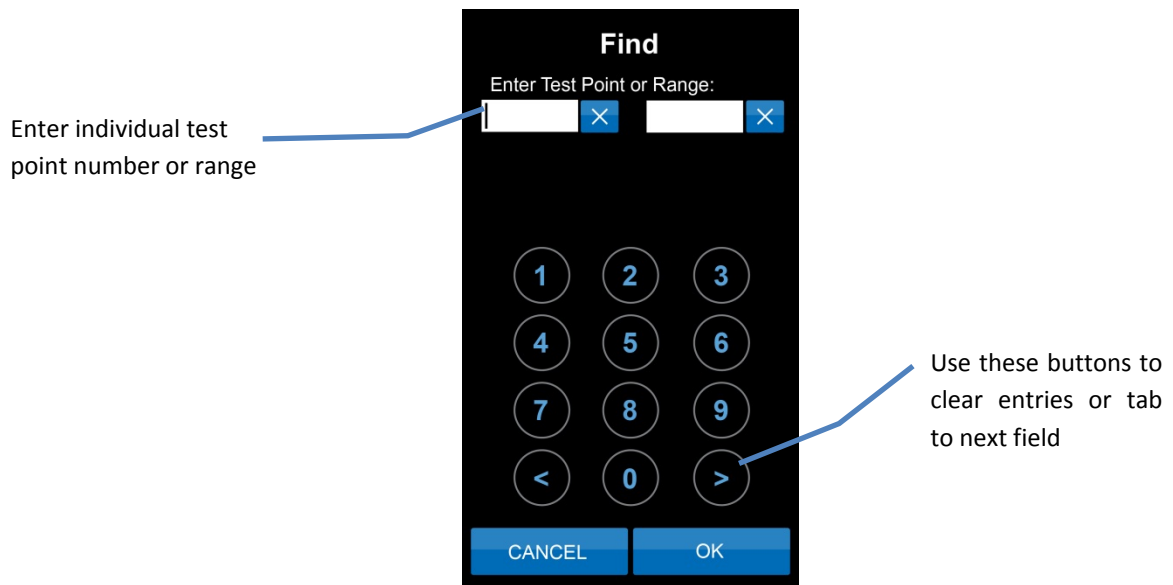
Plans

To view a list of available sample plans for a desired parameter, select the "Plans" tab on the bottom menu of the MVP ICON instrument. Sample plans are a customized grouping of test points. A sample plan can represent a group of test points in a particular production area, direct versus indirect locations, or even a work shift or day of the week. Sample plans are listed by name and include the number of assigned test points in each plan.

Number of test points assigned to sample plan

Scroll bar

List of sample plans

Number of available sample plans
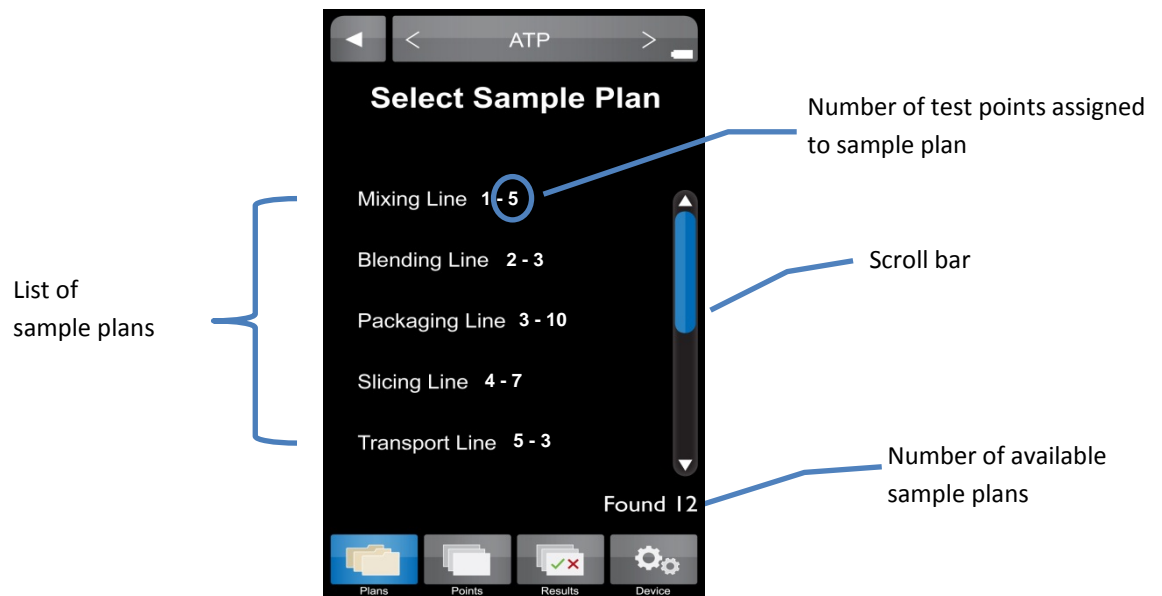
Selecting a Sample Plan

- To select a particular sample plan, lightly press on the desired sample plan name
- Once selected, a list of test points will be displayed in numeric order. Select desired test point and proceed with taking a reading

Shuffle

The order of test points within a sample plan can be randomized or "shuffled." This feature can be used to ensure that all test points have an equal probability of being tested. To shuffle test points:

- Select the desired sample plan (as described above)
- Press the blue "Shuffle" button located above the test point list
- Select first test point in newly shuffled list and proceed to taking test
- After a test point is tested, press the "Back Screen" button to enable selecting the next test point to be measured
- To reset the test points in the plan back to numeric order, press the "Reset Plan" button located next to "Shuffle"

Press to shuffle test points

Press to restore test points to original order
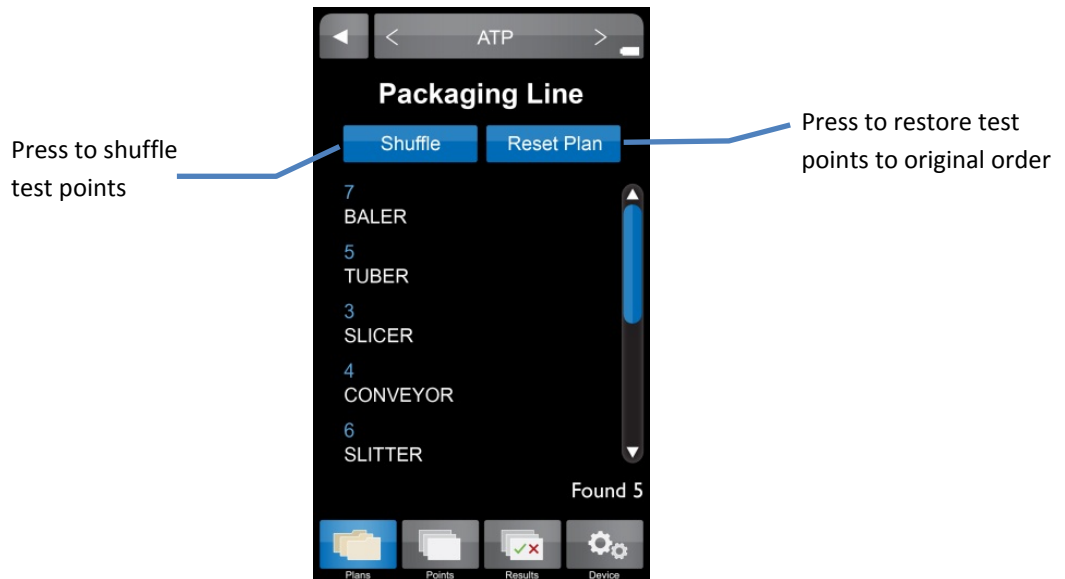
Results

Results

To view a list of stored results for the desired parameter select the "Results" tab on the bottom menu of the MVP ICON instrument. Results are listed in numeric order by test point number and the most recent result for each test point is displayed.

Test point name — **Test point number, date and time of result**

Visual indicator of result

Pass ●

Warn ▮

Fail ●

Use scroll bar to move through list of results

Total number of results found
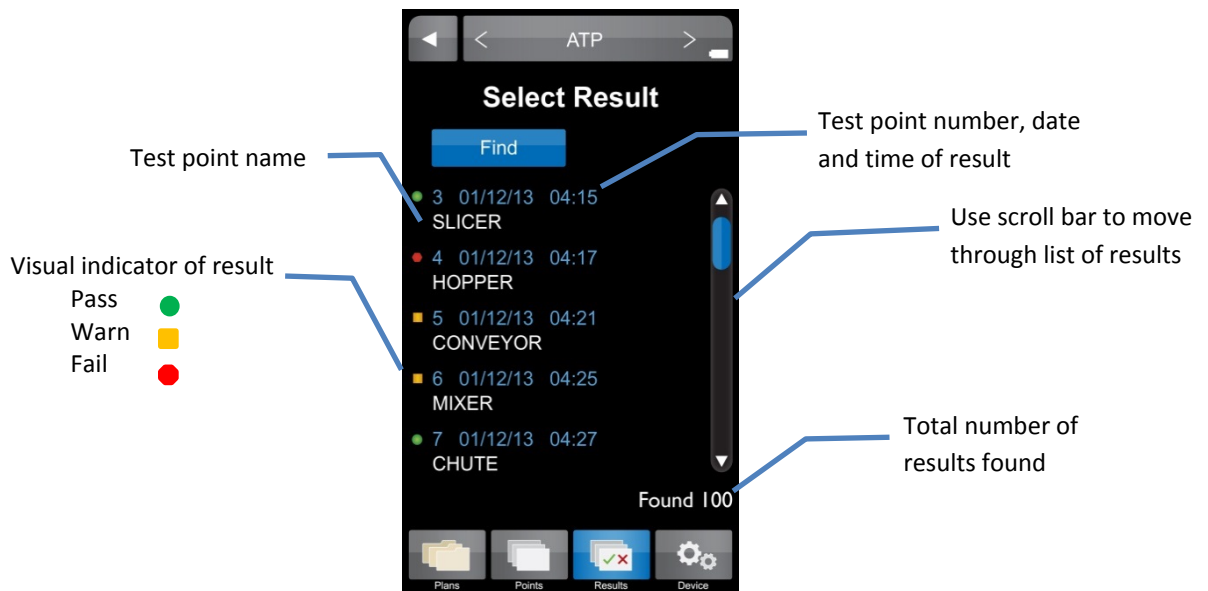
Further details for each result can be found by selecting the desired test point.

Previous test point — Next test point

Test Results

Result — **PASS**

MVP ICON reading — 2.3

Test point number, date, and time of result — 3 01/12/13 04:15

Test point name — SLICER

Test point thresholds — 2.5 Warn 3.5 Fail

Re-Test — Yes

Re-test See Chapter 7

Code — 12345

Code See Chapter 9
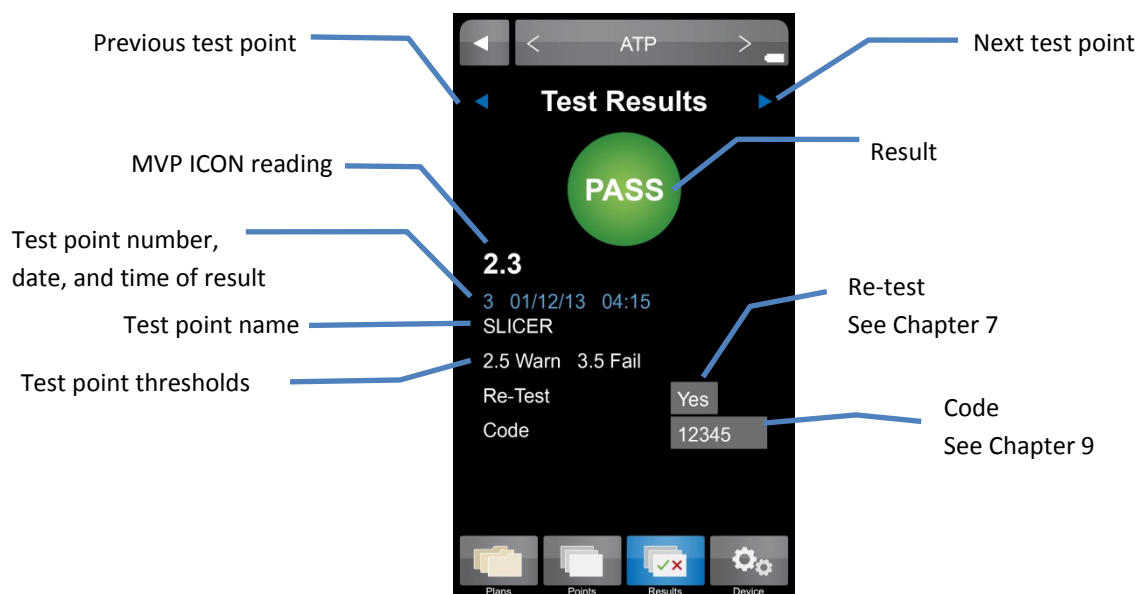
Finding Results

To search for a specific result or range of results touch the "Find" button at the top of the "Results" screen.

- To search for a range of test points enter the first and last test point number in the range
- To search for a single test point enter the test point number as the beginning of the range and leave the end of the range blank
- To search for results from a specific date range enter the beginning and ending dates for the range
- To search for results from a specific day enter the desired date as the beginning of the range and leave the ending date blank

Search for individual or range of test points

Find

Enter Test Point or Range:

Enter Date Range (MM/DD/YY):

1	2	3
4	5	6
7	8	9
<	0	>

CANCEL   OK

Search for single day or range of dates
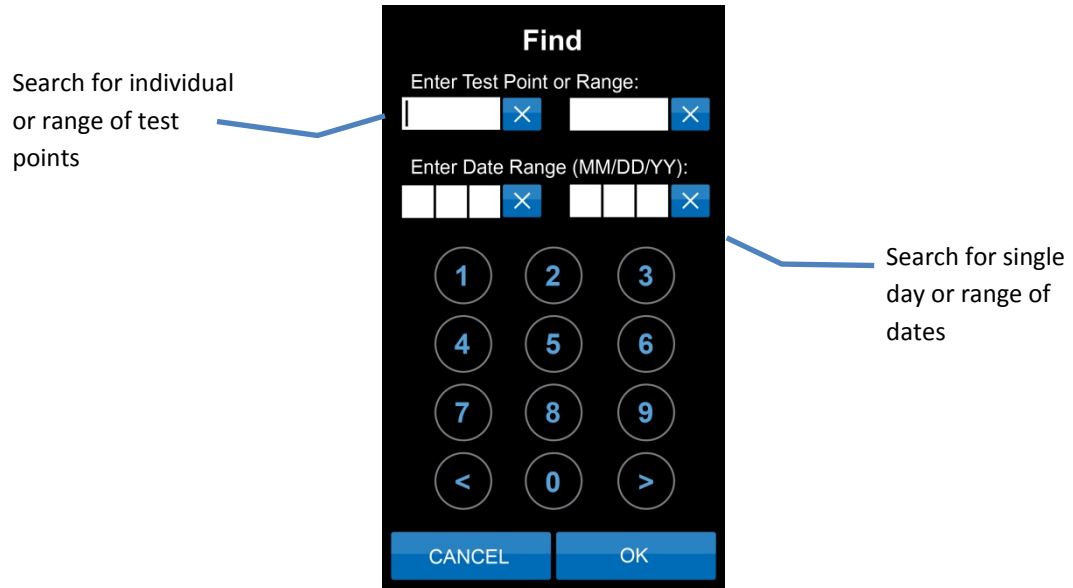
Deleting Results

Results can be deleted directly from the MVP ICON instrument using the delete function found in the "Device" tab.   See Chapter 5 for more details.

Device

Device

Device settings for the MVP ICON can be accessed by selecting the "Device" tab at the bottom of the MVP ICON screen.

Change selected parameter

Adjust display brightness

Access Device settings

Adjust audible alert volume
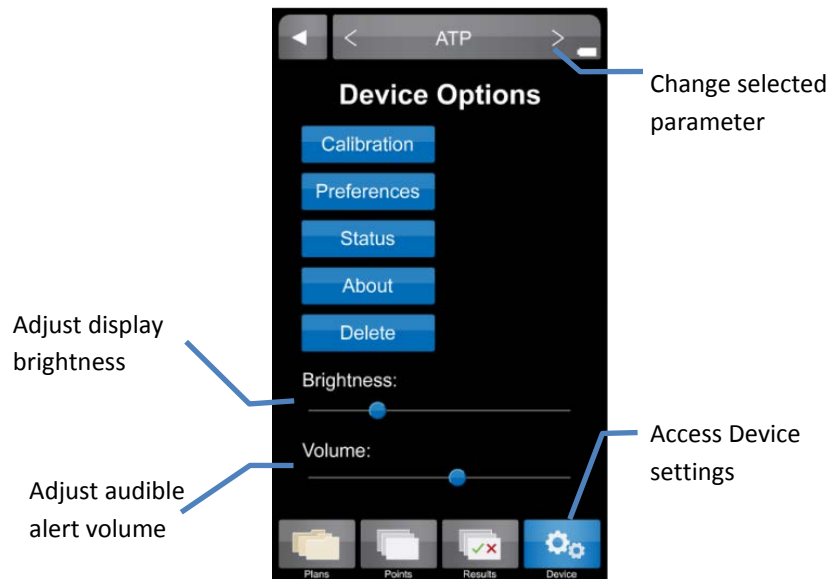
Calibration

Allows for calibration of the MVP ICON for the specific parameter selected (ATP, pH, Temperature, Conductivity, or Concentration) (Chapter 11).

ATP parameter includes procedures for system verification using LIGHTNING MVP ICON ATP Positive Control and LIGHTNING MVP ICON Calibrator Set (Chapter 11).

Preferences

Allows user to customize the language, date, time, temperature and RLU display
- **Time** – Time can be displayed in either a 12-hour (2:00 PM) or 24-hour format (14:00)
- **Date** – Date can be displayed as either Month/Day/Year or Day/Month/Year
- **Language** – The following languages are available for the MVP ICON: English, French, Spanish, German, and Portuguese
- **Show RLU** – ATP result are displayed as Zones of Cleanliness. Results can also be displayed as Relative Light Units or RLU's
- **Temperature** – Temperature can be displayed as either °F or °C

Status

Includes diagnostic information used to troubleshoot the instrument such as:
- Serial Chamber door status (open/closed)
- Charger status (battery/AC)
- Battery voltage

About

Displays instrument specific information:
- Serial number
- Hardware version
- Firmware version

Delete

Allows user to delete results for the selected parameter (optional password protection)
Results can be deleted as:
- Individual results
- A group of specific test points
- Results from a specific date range

To Delete a Result
- From the "Device" menu, select "Delete". Ensure the instrument displays the desired parameter
- Search for result or range of results to delete in same manner as "Results" menu (see Chapter 4)
- When individual or range of results has been selected, press "Delete"
- A warning will appear to ensure user wishes to proceed
- Select "Yes" to continue or "No" to return to previous screen
- If "Yes" is selected the optional password screen will appear (if required)
- Enter correct password to delete results
- Screen will validate results have been deleted

Note: The MVP ICON screen will freeze until results are deleted. A confirmation screen will indicate the desired results were deleted.

Search for individual or range of results

Press to delete results

Number of results

Delete Results

Find   Delete

● 3 01/12/13 04:15
SLICER
● 4 01/12/13 04:17
HOPPER
■ 5 01/12/13 04:21
CONVEYOR
■ 6 01/12/13 04:25
MIXER
● 7 01/12/13 04:27
CHUTE

Found 100

Plans   Points   Results   Device

ATP
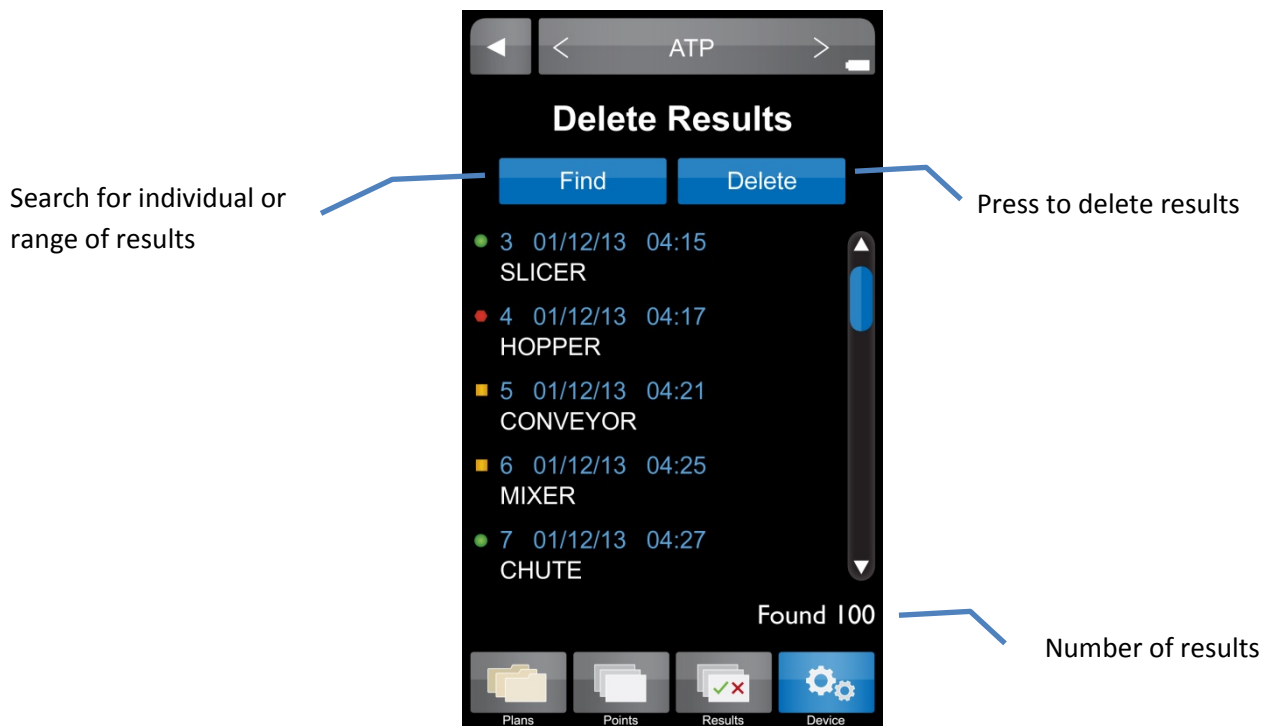
Taking a Reading

ATP

- Select "ATP" mode in the top menu bar from any screen. Use **<** or **>** arrows to toggle through modes
- Select "Points" from the MVP ICON's lower menu
- Select desired test point or use the scroll bar to scroll through the list of available test points

Note: To locate a test point not currently displayed, please reference Chapter 2 – "Finding a Test Point"

- At the "Test Point" screen, designate if sample is a "Re-Test" (see Chapter 7)
- Enter an optional customized code (see Chapter 9)
- Follow the directions in blue to swab the area and insert the sampling device
- Press "Run Test"
- Screen will show "Test in progress" with a countdown to completion

Taking an ATP Reading

1 Swab surface

2 Activate sampling device

3 Insert activated sampling device into MVP ICON

4 Select test point or quick test

5 Result displayed

pH

Please reference the Directions for Use included with the MVP ICON pH Probe for preparation of the probe prior to use.

- Ensure the MVP ICON pH Probe is properly connected to the side of the instrument
- Select "pH" parameter in the top menu bar from any screen. Use **<** or **>** arrows to toggle through parameters
- Select "Points" from the MVP ICON's lower menu
- Select desired test point or use the scroll bar to scroll through the list of available test points
- Designate if the sample is a "Re-Test" (see Chapter 7)
- Enter an optional customized code (see Chapter 9)
- Follow the directions in blue for inserting probe into sample
- Press "Run Test"

Temperature

Please reference the Directions for Use included with the MVP ICON Temperature Probe for proper technique and cleaning of the probe prior to use.

- Ensure the MVP ICON Temperature Probe is properly connected to the side of the instrument
- Select "Temperature" parameter in the top menu bar from any screen. Use **<** or **>** arrows to toggle through parameters
- Select "Points" from the MVP ICON's lower menu
- Select desired test point or use the scroll bar to scroll through the list of available test points
- Designate if the sample is a "Re-Test" (see Chapter 7)
- Enter an optional customized code (see Chapter 9)
- Follow the directions in blue for inserting probe into sample
- Press "Run Test"

Conductivity

Please reference the Directions for Use included with the MVP ICON Conductivity Probe for preparation of the probe prior to use.

- Ensure the MVP ICON Conductivity Probe is properly connected to the side of the device
- Select "Conductivity" parameter in the top menu bar from any screen. Use **<** or **>** arrows to toggle through parameters
- Select "Points" from the MVP ICON's lower menu.
- Select desired test point or use the scroll bar to scroll through the list of available test points
- Designate if the sample is a "Re-Test" (see Chapter 7)
- Enter an optional customized code (see Chapter 9)
- Follow the directions in blue for inserting probe into sample
- Press "Run Test"

Concentration

Please reference the Directions for Use included with the MVP ICON Conductivity Probe for preparation of the probe prior to use.

Before Taking a Concentration (ppm) Reading

Prior to taking a Concentration reading (ppm), it is important to ensure the chemical standard assigned to each test point has been properly calibrated. Please see Chapter 11 – Calibration for instructions on calibrating the chemical standard.

Note: A Concentration test point cannot be tested unless the chemical standard has been calibrated and saved prior to taking the reading.

Taking a Concentration Reading

- Ensure the MVP ICON Conductivity probe is properly connected to the side of the instrument
- Select "Concentration" parameter in the top menu bar from any screen. Use **<** or **>** arrows to toggle through parameters
- Select "Points" from the MVP ICON's lower menu
- Select desired test point or use the scroll bar to scroll through the list of available test points
- Designate if the sample is a "Re-Test" (see Chapter 7)
- Enter an optional customized code (see Chapter 9)
- Follow the directions in blue for inserting probe into sample
- Press "Run Test"

Note: The "Test Source Water" button, located next to "Run Test," allows for source water to be tested with each sample, should it vary from the source water used to prepare the calibrated chemical standard. If the source water is similar to the water used to prepare the chemical standard, it is not necessary to the test the source water with each sample.
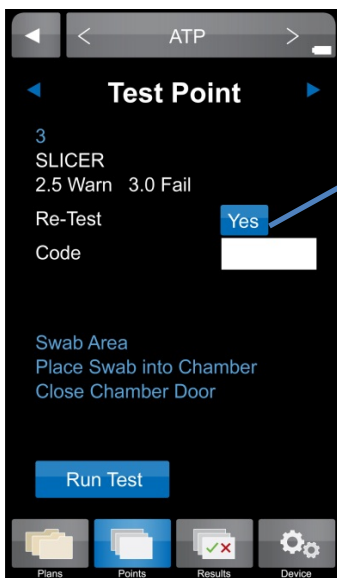
Re-Test Function

Re-Tests

A test result for any of the MVP ICON parameters can be coded as a "re-test." When testing for ATP, areas that show high ATP readings should be re-cleaned and re-tested to verify adequate cleaning. A test point can be coded as a re-test either at the time the sample was taken or at the results screen.

How to Re-Test a Sample

- Select the desired test point through the "Points" or "Plans" menu options (see Chapter 6)
- To designate the test point is a re-test before the sample is measured, press the blue button next to "Re-Test" until "Yes" appears
- To indicate a re-test after the sample was taken, press the button next to "Re-Test" at the "Test Results" screen

Prior to Reading Sample

Press to mark re-test as "Yes" or "No"

After Sample is Measured
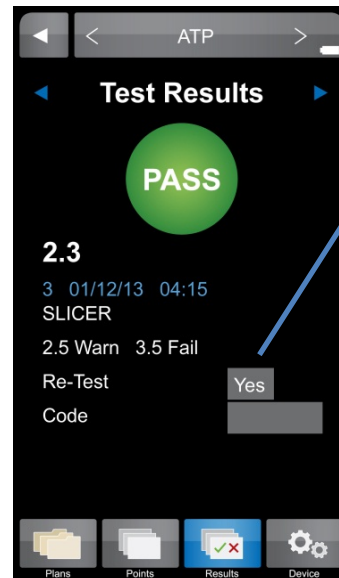
Press to mark re-test as "Yes" or "No"

Quick Test Function

Quick Tests

The Quick Test function on the MVP ICON allows for a test measurement to be taken without saving the results to a test point. This can be useful for training or other instances where saving test results is not needed. However, users have the option of saving results and converting to assigned test points once the data is updated to the MVP ICON Dashboard software.

See Chapter 22 – MVP ICON Instrument Setup for instructions on how to password protect the Quick Test feature and convert into an assigned test point.

Take a Quick Test

- Select "Points" from the MVP ICON's lower menu
  Note: Quick Test can only be taken from the "Points" menu and is applicable for all parameters
- At the "Select Test Point" screen, press the "Quick Test" button at top in blue

  <div style="float:right">Quick Test</div>

- Enter Quick Test password, if applicable
  Note: If a Quick Test password was not enforced via the MVP ICON software, user will be guided directly to "Test Point" screen
- At the "Test Point" screen, the Quick Test can be coded as a "Re-Test" with optional customized code (see Chapters 7 and 9, respectively)
  Note: Quick Test can also be labeled as a re-test after the sample has been measured
- Follow screen directions to swab area and insert sampling device in chamber
- Press "Run Test"
- Press "Save" to save Quick Test results onto the unit or "Discard" to return to the prior screen

Locate a Quick Test Result on the MVP ICON

The newly saved Quick Test result can now be located under "Results" from the MVP ICON's lower menu in three different ways:

- Scroll to the bottom of the results menu
- Select "Find" and enter test point or test point range
- Select "Find" and enter date or date range

Code Field

Code Field

The "Code" field on the MVP ICON is a place to enter additional identifying information about an assigned test point into the instrument at the time of testing. For example, a numeric code could be entered prior to taking a sample to identify a particular sanitation worker, product, or location within the facility not previously identified during test point setup in the software. The code field on the MVP ICON is a numeric value only. Any meaning correlating to this code should be documented separately for reference.
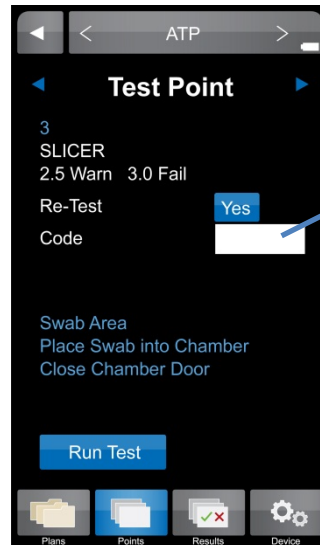
Entering a Code

Codes are entered after a test point has been selected, either through "Points" or "Plans" and must be entered prior to measuring the sample.

- Select desired test point via "Points" or "Plans"
- At the "Test Point" screen, locate the "Code" field and lightly press the white box
- Enter the desired code, up to 8 digits
  Note: This field is not password protected. Any 1 – 8 digit code can be entered on this screen.
- The code will now be populated in the "Code" field and will be associated with that particular result

Enter a customized code here

Viewing a Coded Result

- Any test point with an assigned code can be viewed in the "Results" section of the MVP ICON menu
- Coded results are also available in "Raw Data" within the MVP ICON software, once uploaded (see Chapter 20 – Raw Data for more information)

Custom Fields

Custom Fields

"Custom Fields" present another opportunity to enter customized information about test points and are established within the MVP ICON software. The three custom fields can be populated with information such as a test point's associated product, location within the facility (ex. Room 3), and the type of surface being sampled (ex. Stainless Steel).

Please see Chapter 15 – Creating Test Points for more information on setting up "Custom Fields" within the MVP ICON Software.

Viewing Custom Fields on the MVP ICON
- Select desired test point via "Points" or "Plans"
- All custom field entries for the assigned test point will be displayed directly below the "Code" field prior to measuring the sample
- Custom field designations are also available in "Raw Data" within the MVP ICON software, once uploaded

Custom
Field
entries

Calibration / Verification

The MVP ICON's parameters can be manually calibrated on-site to ensure the instrument is working at its optimal performance. In addition, the ATP calibration function also features "Verification" which records and stores the positive and negative control readings for both the sampling device and calibrator set.

ATP

The MVP ICON is calibrated at the factory; however, users should also calibrate the MVP ICON prior to first use. It is recommended to run positive control verifications every other day and calibrate when necessary. The calibration rods last for five years. The MVP ICON is calibrated for ATP using a standardized two-point calibration procedure. This function requires the LIGHTNING MVP ICON Calibrator Set which includes the necessary luminescent and non-luminescent calibrators to perform the operation.

Calibration
- Ensure the instrument ATP parameter is selected
- Select "Device" from the MVP ICON's lower menu
- From the "Device Options" screen select "Calibration"; press "Calibrate"
- Enter the Reference Value (found on the luminescent calibrator's label)
- Insert non-luminescent calibrator and close the chamber door; press "Calibrate"
- Remove non-luminescent calibrator, insert luminescent calibrator, close door and press "Calibrate"

An error message will generate if results are not within the MVP ICON's specification. Typical causes for failed calibration include: readings or variance too high or low for the luminescent or non-luminescent calibrators, light leaks within the chamber, or a build-up of static. Refer to the calibrator's Directions for Use for additional information. For assistance, contact BioControl Technical Support at 800.245.0113.

If successful, the date of calibration will appear on the MVP ICON's home screen and the record will upload into the software database upon the next sync.

System or Sampling Device Verification
Verification is designed to ensure the instrument and sampling devices are working correctly. The LIGHTNING MVP ICON ATP Positive Control provides a sample which produces a positive ATP result when assayed with the MVP ICON system. It is recommended to run ATP Positive Controls every other day and incorporate results into an overall Quality Control program.

Positive Control Procedure
Requires LIGHTNING MVP ICON ATP Positive Controls
- Ensure ATP parameter is selected
- Select "Device" from the MVP ICON's lower menu
- From "Device" screen select "Calibration"
- Press the "Positive Control" button under the "Verification" menu in ATP Calibration mode
- Open the LIGHTNING MVP ICON ATP Positive Control vial
- Insert a LIGHTNING MVP ICON Surface Sampling Device and completely dissolve the positive control pellet onto the tip of the swab

Note: Take care to ensure the swab tip does not touch any surface other than the inside of the vial

- Activate the sampling device, insert into the chamber, and close the chamber door
- Press "Verify" to run the verification

The result for a positive control should read between 3.1 – 4.3 Zones.
- Results greater than 4.3 Zones indicate a potential contamination of either the sampling device or positive control. Re-test in duplicate and average the two results
- Between 2.6 – 3.0 Zones, more thorough swabbing of the vial may be required
- Below 2.6 Zones, ensure the sampling device was properly activated. If device was activated properly, it may indicate a problem with the instrument, device, or positive controls. Repeat the test with a new vial of positive control and new sampling device
- If verification fails again, calibrate the instrument and read verifications with a new vial and sampling device
- If still out of range, contact BioControl Technical Support at 800.245.0113

Negative Control Procedure
A negative control is an unused but activated sampling device.
- Press the "Negative Control" button under the Verification menu in ATP Calibration
- Activate the sampling device, insert into the chamber, and close the chamber door
- Press "Verify" to run the verification

The result for a negative control should read between 1.0 – 2.5 Zones.

LIGHTNING MVP ICON Instrument Verification
To verify if the instrument is reading correctly, the luminescent and non-luminescent calibrators are used.

The luminescent calibrator consists of a ^{14}C radioactive source which emits a very low level ($5x10^5$ d.p.m. or 0.225 microcuries) of low-energy β radiation in a plastic scintillating matrix. This matrix is configured to provide a constant light output at a sufficiently high level in order to perform consistent verification and calibration over the shelf-life of the calibrator.

The non-luminescent calibrator provides a reliable low-end or "dark" source reading.

Luminescent Calibrator Procedure
- Under the "Verification" menu in ATP Calibration, select "Luminescent Calibrator"
- Insert the luminescent calibrator and close the chamber door
- Press "Verify"

In a properly calibrated MVP ICON, the calibrator should read within 0.1 Zones of the zone value displayed on the calibrator's label.

Non-Luminescent Calibrator Procedure
- Under the "Verification" menu in ATP Calibration, select "Non-Luminescent Calibrator"
- Insert the non-luminescent calibrator and close the chamber door
- Press "Verify"

The non-luminescent calibrator should read 1.0 – 1.5 Zones. Readings outside this range can indicate problems with the instrument.

pH

The pH calibration process uses three standard buffers (pH 4.00, 7.00, and 10.00). This three-point calibration allows for the probe to be used across the entire pH range. For optimal accuracy, the MVP ICON pH Probe should be calibrated before first use, at the beginning of each day and when changing test materials.

Calibration Procedure

Prior to performing calibration, rinse the pH probe with deionized or distilled water and blot dry. Soak in pH 7.00 buffer for at least 10 minutes prior to calibration and ensure the standard is mixed well.

- Connect the MVP ICON pH Probe to the instrument and verify the pH parameter is selected
- Select "Device" from the MVP ICON's lower menu
- Insert the probe into the 7.00 standard solution and press "Calibrate"
- When prompted, insert the probe into the 10.00 standard solution and press "Calibrate"
- When prompted, insert the probe into the 4.00 standard solution and press "Calibrate"

Note: If the probe will not calibrate, it usually indicates a failing probe or contaminated buffers. Be sure to keep buffers sealed when not in use. Do not use expired buffers.

Temperature

The MVP ICON Temperature Probe is calibrated using a single-point calibration process. Any known temperature within operating range may be selected for calibration. Calibration is most accurate when a temperature point close to the sample temperature is selected.

Calibration Procedure

- Connect the MVP ICON Temperature Probe to the instrument and verify MVP ICON is in temperature parameter
- Select "Device" from the MVP ICON's lower menu
- Select "Calibration"
- Enter the Reference Value (instrument will indicate either ˚F or ˚C based on settings)
- Insert probe into the reference sample of a known temperature entered above
- Press "Calibrate"

Conductivity

The MVP ICON Conductivity Probe reads in microSiemens (µS) for conductivity and requires the use of a conductivity standard close to the target reading. An appropriate conductivity standard for North America is 500 µS. Rinse the Conductivity probe with deionized or distilled water and soak the probe in the conductivity standard for at least two minutes prior to calibration.

Calibration Procedure

- Connect the MVP ICON Conductivity Probe to the instrument and verify the Conductivity parameter is selected
- Select "Device" from the MVP ICON's lower menu
- Enter the Reference Value in microSiemens (µS)
- Insert the probe into the sample
- Press "Calibrate"

If the ICON is unable to calibrate the MVP ICON Conductivity Probe, it is usually due to contamination or otherwise incorrect standards or buffers. Ensure the standard is well-mixed and try the calibration again. If unable to calibrate, contact BioControl Technical Support at 800.245.0113.

Concentration

To calibrate the MVP ICON Conductivity Probe for measuring the concentration of specific cleaning/sanitizing chemicals the probe must first be calibrated for conductivity as directed in the preceding section – see conductivity calibration procedure

Next, a chemical standard must be prepared for each specific cleaning/sanitizing chemical to be tested. The chemical standard is prepared by carefully mixing the chemical with the available source water at the precise concentration it is intended to be used, per the manufacturer's directions (i.e. 200 ppm).

The corresponding chemical standard must also be created in the MVP ICON Dashboard software and transferred to the MVP ICON before the calibration procedure can be performed. (See Chapter 15)

Calibration Procedure
- Connect the MVP ICON Conductivity Probe to the instrument and verify the Concentration parameter is selected
- Select "Device" from the MVP ICON's lower menu
- Select the desired standard
- Insert the probe into the source water and press "Calibrate"
- Insert the probe into the chemical standard and press "Calibrate"

Note: The probe should be rinsed with DI water and blotted dry between readings.

If the calibration is unsuccessful, remix the sanitizer or cleaner and try to calibrate again. If unable to calibrate, please contact BioControl Technical Support at 800.245.0113.

The calibration procedure should be repeated whenever
- A new lot of sanitizer is to be used
- A new vendor of sanitizer is used
- The same sanitizer is used at a different ppm concentration

MVP ICON Dashboard Software at a Glance   **12**

Introduction
The innovative dashboard on the software's home screen provides a quick overview of key metrics and allows for immediate and corrective action. Detailed analysis reports provide comprehensive data to identify hot-spots within the facility, track and trend data, and generate audit-ready HACCP reports.

System Requirements
- Windows XP, Vista, Windows 7, or Windows 8
- Minimum memory requirement 512 MB; recommend at least 1GB or more of RAM
- At least 16 GB of hard disk space
- WXGA video resolution of 1280 x 800 or better
- Mouse or other pointing device
- One available USB port
- CD Drive or access to the Internet
- Printer (optional)

Installation

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Installing the MVP ICON Dashboard Software

The MVP ICON Dashboard software is included with the MVP ICON system and is loaded onto a CD for installation. It is also available on the BioControl Web site at www.biocontrolsys.com. Contact BioControl Technical Support for more information on downloading software.

Installing the software:
- Insert software disc into the computer's CD drive
- Follow the Install Wizard prompts by clicking "Next"
- Click "Finish" to complete installation and install the desktop icon
- Launch program from the desktop icon

Dashboard

What is the MVP ICON Dashboard?

The MVP ICON Dashboard software's home screen displays a dashboard which provides an overview of key program control metrics at a glance. This unique feature provides quality assurance managers with an overall picture of the behavior and health of their HACCP and hygiene program by highlighting where potential problems reside within the facility, or with the execution of the program, to guide corrective action for immediate resolution. The dashboard can be accessed from any screen in the software by clicking 🏠 at the top of the screen.

Example of the Software's Dashboard

ATP Swabs to Target Widget

% ATP Swabs to Target

93%

Target: 750   Period: Monthly
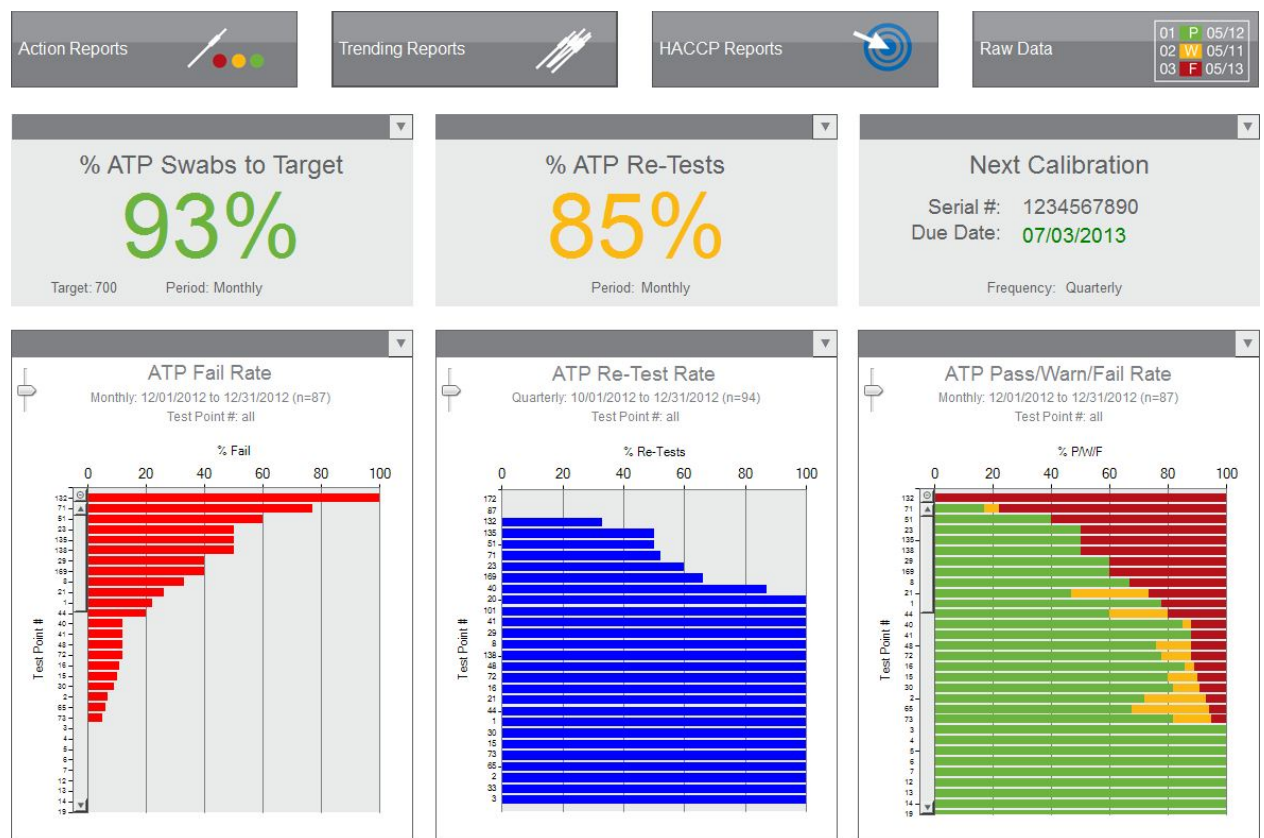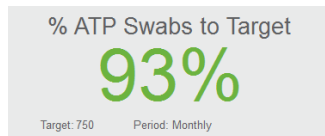
The ATP Swabs to Target widget allows users to set a target for the number of ATP sampling devices used and measure active usage against this target. This data provides a quick assessment if the correct amount of sample devices are being used, indicating sufficient testing is taking place, or if testing needs to increase to ensure the plan is on track.

The reading is based on the total amount of ATP test results uploaded to the MVP ICON Dashboard software compared to the defined target quality goal for a given period.
- For example, if the target number of tests is 200 per month and the software contains 50 test results for that time period, the ATP Swabs to Target percentage is 25%
- Quick Test results are not included in the total ATP test results unless they are subsequently saved and converted

Setting ATP Swab Target
- Select the dropdown arrow at the top corner of the "ATP Swabs to Target" widget
- Select target frequency (Weekly, Monthly, Quarterly, Annually)
- Enter the target number of tests based on the time period (ex. 300 per month, 75 per week, etc.)
- Select "OK"

When the target and frequency are indicated, the percentage of sampling devices used will automatically update based on the total amount of results uploaded to the software.

ATP Re-Tests Widget

% ATP Re-Tests

59%

Period: Monthly
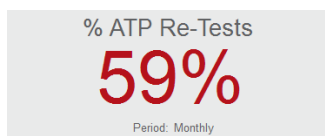
The ATP Re-Tests widget defines how many test points have been coded as a re-test over a period of time. Re-tests are commonly performed if a test point has produced a warn and/or fail result, therefore, the higher the percentage of re-tests, the more often a test point has been re-cleaned and re-tested. Results can be viewed Weekly, Monthly, Quarterly, or Annually.

Setting ATP Re-Test Target
- Select the dropdown arrow at the top corner of the "ATP Swabs to Target" widget
- Select the desired frequency (Weekly, Monthly, Quarterly, Annually)
- Check "Warnings Included" if your program requires all "warn" results to be re-cleaned and re-tested
- Select "OK"

Note: It is critical before testing with the MVP ICON to determine if only failed results will be re-tested or if results with both a fail and warn reading will be re-tested, per your standard operating procedures. This impacts how the re-test data is displayed in the graph.

Next Calibration Widget
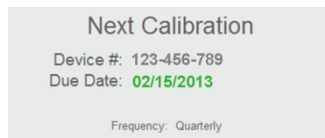
The "Next Calibration" feature alerts the user to the next required date of calibration for the MVP ICON instrument, based on their HACCP and hygiene monitoring program. Each time an instrument is connected to the software, the "Next Calibration" feature will identify the unit by its serial number and will reflect the next required date of calibration. If multiple units are synced to a database, the software will reflect the unit that is due next for calibration.

This application helps comply with HACCP programs to ensure all instruments are calibrated on a timely basis and is a useful tool for audits.

The due date is color-coded to reflect calibration urgency.
- Green indicates the instrument is within 80 percent of its next calibration due date
- Yellow warns the user they are within 90 percent of their due date
- Red indicates the unit is beyond its calibration due date

Setting the Calibration Frequency Target
- Select the dropdown arrow at the top corner of the "Next Calibration" widget
- Select the desired calibration frequency (Weekly, Monthly, Quarterly, Annually)
- Select "OK"

ATP Fail Rate Graph
The first of the three graphs at the bottom of the dashboard is "ATP Fail Rate." This graph guides the quality team to problematic areas in the facility requiring prompt attention for immediate resolution.

Results are ordered from test points with the highest percentage of failed ATP results to lowest.

Test point numbers

Percentage each test point failed
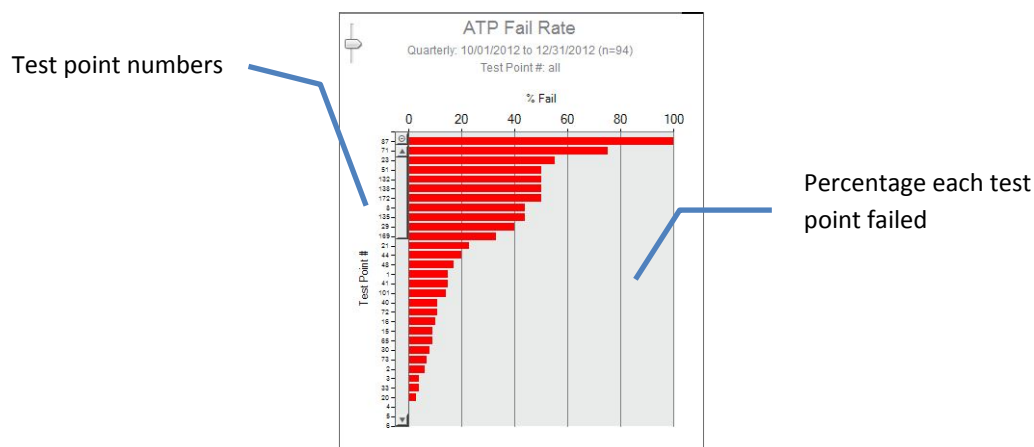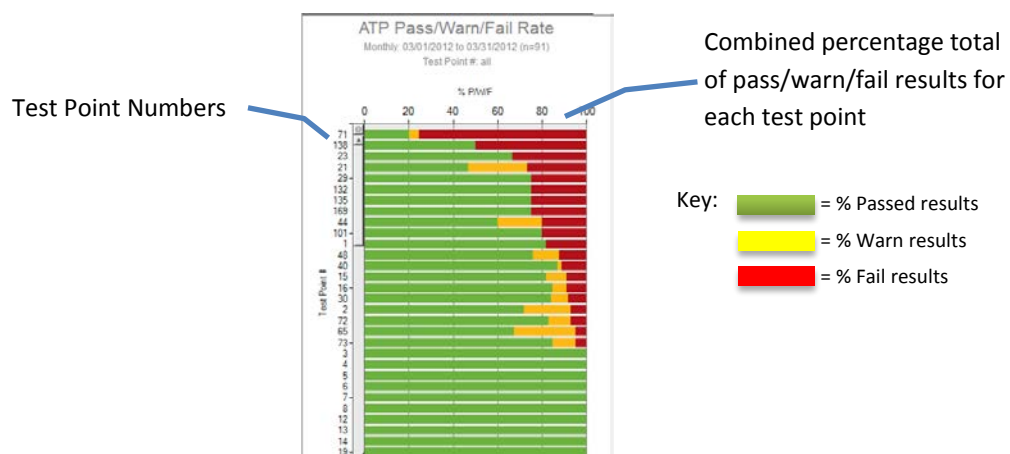
ATP Re-Test Rate Graph

The middle graph on the dashboard displays the "ATP Re-test Rate" by test point. This graph illustrates the percentage of times a test point was re-cleaned and re-tested over a designated period to highlight potential problem areas needing more thorough cleaning. In addition, QA Managers can verify if the sanitation protocol for re-cleaning failed test points is adequately followed.

Note: It is critical before testing with the MVP ICON to determine if only failed results will be re-tested or if results with both a fail and warn reading will be re-tested, per your standard operating procedures. This impacts how the re-test data is displayed in the graph.

Test point numbers

Percentage each test point was re-tested

Listed from lowest percentage re-test to greatest
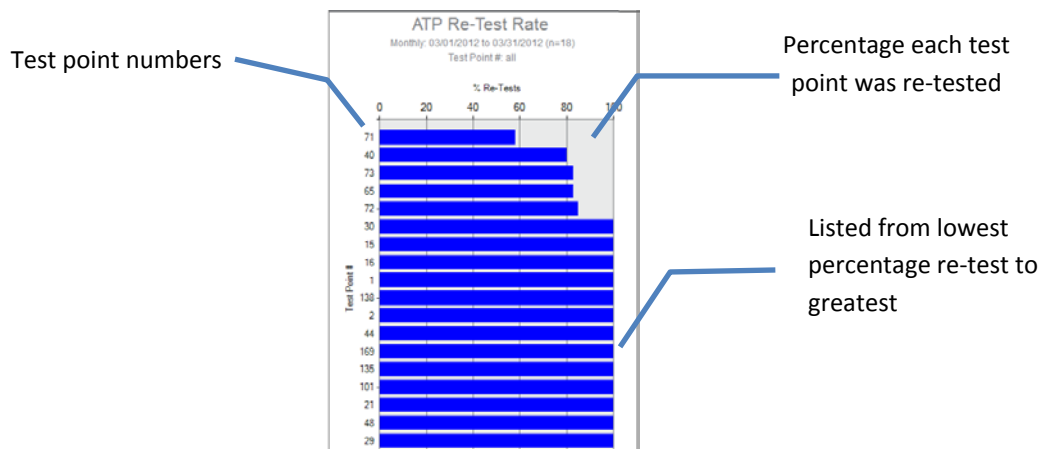
ATP Pass/Warn/Fail Rate Graph

This stacked column graph presents the percentage of pass, warn, and fail results for all selected test points over a period of time. This graph directs the sanitation crew to areas in the facility requiring special attention identifying those test points that have higher warn and fail rates.

Test Point Numbers

Combined percentage total of pass/warn/fail results for each test point

Key:
= % Passed results
= % Warn results
= % Fail results

Customizing Dashboard Graphs

- Select the dropdown arrow at the top corner of the appropriate graph
- Select by test point (individual, range, or all) or by all test points assigned to a particular sample plan
- Select time period by Daily, Weekly, Monthly, Quarterly or Annually by max date range
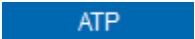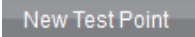- Select "OK" to run the report

Creating Test Points

The MVP ICON Dashboard software allows for a wide range of test point setup and customization options to ensure each unique area in the facility is identified by all necessary and applicable information.

The MVP ICON software also provides the ability to create sample plans to which a test point (or multiple test points) can be assigned. Sample plans are a helpful way to organize a subset of test points within a facility for better identification and to guide the sanitation crew during testing.

The MVP Collection feature allows for test points from multiple parameters (ATP, pH, Conductivity, etc.) to be grouped together in order to analyze and view data as an interrelated set to establish trends not previously identified.

ATP Test Points

- From the software's top menu, select "Test Point Setup"
- From the table menu, ensure the ATP Test Point tab is highlighted in blue   **ATP**
- From the left-hand column menu, select "New Test Point."   New Test Point
  Test points will be created in numerical order.
- Click on the "Name" column cell for the applicable test point to assign a name

Note: Test point assignments are alphanumeric and can be up to 25 characters long, however, the ICON instrument will only display up to 15 characters of the name.

Note: The Warn/Fail threshold limits will automatically populate 2.5 for Warn and 3.0 for Fail, based on the Zones of Cleanliness. Thresholds can be customized to any zone value between 1.3 and 5.0.

To change the threshold, simply click on the desired cell and change to the applicable correlating threshold.
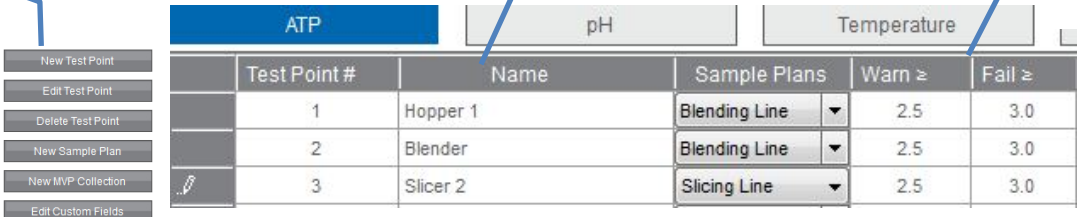
- If the reading is less than the Warn limit, the test point result will be reported as a pass
- If the reading is greater than or equal to the Warn limit but less than the Fail threshold, the result is a warn
- If the reading is greater than or equal to the Fail limit, the test point result will be reported as a fail

Test Point Setup Screen - ATP

Click cell to name test point

Can adjust Warn/Fail thresholds

Create a new test point

		ATP	pH	Temperature		
New Test Point		Test Point #	Name	Sample Plans	Warn ≥	Fail ≥
Edit Test Point		1	Hopper 1	Blending Line ▾	2.5	3.0
Delete Test Point		2	Blender	Blending Line ▾	2.5	3.0
New Sample Plan		3	Slicer 2	Slicing Line ▾	2.5	3.0
New MVP Collection						
Edit Custom Fields						

pH Test Points

- Select "pH" from table menu   `pH`
- Select "New Test Point"
- Click on the "Name" column cell for the applicable test point to assign a name
  Note: Test point assignments are alphanumeric and can be up to 25 characters long, however, the ICON instrument will only display up to 15 characters of the name
- Establish Low and High threshold limits for the test point (ex. Low = 3.80, High = 12.70)
- If a coinciding temperature measurement is desired, check the "Temp" box and set Temp Low and Temp High limits

NOTE: If the reading is below the Low limit or above the High limit, the test point result is reported as a fail.

Check "Temp" box correlating temperature reading desired

Temperature Low/High thresholds

pH Low/High thresholds

	Test Point #	Name	Sample Plans	Low ≤	High ≥	Temp	Temp Low ≤	Temp High ≥
▶	0	FILLING MIX	Blending Line ▾	3.80	12.70	☐	0.0	0.0
	1	DOUGH BLENDER	Blending Line ▾	3.70	12.20	☐	0.0	0.0
	3	MISC - STROM	Mixing Line ▾	3.90	11.60	☐	0.0	0.0

ATP | pH | Temperature | Conductivit

Temperature Test Points

- Select "Temperature" from the table menu   `Temperature`
- Select "New Test Point"
- Click on the "Name" column cell for the applicable test point to assign a name
  Note: Test point assignments are alphanumeric and can be up to 25 characters long, however, the MVP ICON instrument will only display up to 15 characters of the name.
- Set Low and High threshold limits

Note: If the reading is below the Low limit or above the High limit, the test point result is reported as a fail.

Conductivity Test Points

- Select "Conductivity" from the table menu   `Conductivity`
- Click "New Test Point" to create a new Conductivity test point
- Click on the "Name" column cell for the applicable test point to assign a name
  Note: Test point assignments are alphanumeric and can be up to 25 characters long, however, the MVP ICON instrument will only display up to 15 characters of the name.
- Establish Low and High threshold limits for the test point (ex. Low = 190, High = 401)
- If a coinciding temperature measurement is desired, check the "Temp" box and set Temp Low and Temp High limits

Note: If the reading is below the Low limit or above the High limit, the test point result is reported as a fail.

Chemical Standards

Concentration test points require an associated chemical standard at a designated working concentration (ex. Quat 200 ppm). In order to assign a chemical standard to a Concentration test point, one must first be created under the "Chemical Standards" tab.

- Select "Chemical Standard" from the table menu [Chemical Standard]
- Click "New Test Point" to create a new chemical standard
- Assign a chemical standard name under the "Name" column (i.e. brand name of the chemical)
- Under "PPM" list the designated working strength of the chemical (ex. 200)
- The newly created chemical standard will now be an available drop-down selection under "Standards" in Concentration Test Points

Chemical Standards

	Test Point #	Name	PPM
▶	1	Quat Contact	200
	2	Chlorine 175	175
	3	Iodine 175 ppm	175
	4	Peracetic 375	375
	5	Quat Non-Contact	350

Strength in part-per-million

Low/High ppm thresholds

Concentration Test Points

- Select "Concentration" from the table menu [Concentration]
- Click "New Test Point" to create a new Concentration (PPM) test point
- Click on the "Name" column cell for the applicable test point to assign a name
  Note: Test point assignments are alphanumeric and can be up to 25 characters long, however, the MVP ICON instrument will only display up to 15 characters of the name
- Establish Low and High threshold limits for the test point (for ex. Low = 190 ppm, High = 401 ppm)
- If a coinciding temperature measurement is desired, check the "Temp" box and set Temp Low and Temp High limits
  Note: If the reading is below the Low limit or above the High limit, the test point result is reported as a fail.
- Under "Standard" click the drop-down box to select from a list of pre-assigned chemical standards (See Chemical Standards for more information)

Note: A standard must be assigned to each Concentration test point before proceeding to the next test point.

Select Standard from drop-down list

Low/High PPM thresholds

Low/High Temperature thresholds

ATP		pH		Temperature		Conductivity		Concentration	
Test Point #	Name	Sample Plans	Low ≤	High ≥	Temp	Temp Low ≤	Temp High ≥	Conc	Conc
1	Quat Mix 1	▼	200	400	☐	0.0	0.0	82	4

Editing a Test Point

A test point can be edited at any time by simply clicking on the desired cell and making the changes. Examples of editing a test point include changing the Warn/Fail thresholds, custom field designations or sample plan assignment. The changes will be reflected on the MVP ICON instrument when synced.

Note: It is very important to note changing the name of a test point will also change the name of the test point's result on the instrument. This should be avoided. Instead, it is recommended to create a new test point.

To Edit a Test Point
- Click on the test point to be edited – entire row will be highlighted
- Double-click on the desired cell and make edits

Note: Changes can be undone by pressing Ctrl-Z on your keyboard from any Windows-based operating system.

Deleting a Test Point

Note: It is important to note that deleting a test point will impact any historical data associated with the test point in the software database and the MVP ICON instrument once communication between instrument and software is established. See Chapter 23 – Database Management for further detail.
- Select the desired test point by clicking any cell on the test point row
- Select "Delete Test Point"   Delete Test Point   from the left-hand column or highlight test point and press delete on keyboard
- A warning message will appear instructing user to archive any historical data associated with the test point prior to deletion

Note: Once test point has been deleted, the information cannot be retrieved from the database.

Creating Custom Fields

As mentioned in Chapter 10, these optional fields allow users to provide additional customized levels of information for a test point.

Examples of common Custom Field assignments include: Surface Type (stainless steel, rubber, etc.), Plant Location (Plant 04, Tulsa, etc.), or Room (Dairy Room, Dough Room, etc.).

Note: Custom Fields are designated per parameter, not per test point.

Assigning Custom Fields

- Select "Test Point Setup" from software's top menu
- Select "Custom Fields" from the left-hand column menu   Custom Fields
- A pop-up box will appear to customize the three fields for each parameter
- Enter desired Custom Field designations and press "OK"
- The Custom Field columns for the parameter's test points will now reflect the newly designated assignments

Custom Fields

ATP

Plant Location

Room

Surface Type

Pop-up box to enter custom fields

Columns now populated with Custom Fields designations
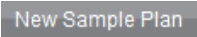
Name	Warn ≥	Fail ≥	Plant Location	Room	Surface Type
Slicer	2.5	3.0			
Hopper	2.5	3.0			
Conveyor	2.5	3.0			

Creating Sample Plans

About Sample Plans

Sample plans allow users to organize a group of related test points. For example, all test points associated with a blending line in a facility can be grouped under a sample plan titled, "Blending Line." A single test point can be assigned to multiple sample plans. For instance, test point 4 can be assigned to the "Blending Line" and the "Processing Line."

Creating a Sample Plan

- Select "Test Point Setup" from software's top menu
- Select "New Sample Plan" from left-hand column   New Sample Plan
- A pop-up box will appear and instruct user to enter a sample plan name
- Enter the name of the new sample plan and press "Save"
- All sample plans will be listed on the left-hand side of the screen under "Select to View"

Select to View
All Test Points
Sample Plans
Mixing Line
Packaging Line
Processing Line 1
Slicing Line
Transport Line
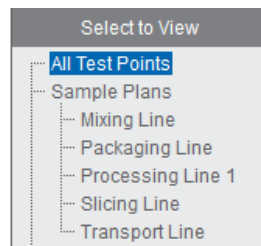
Assigning Test Points to a Sample Plan

- Select desired parameter from which to assign test points (ATP, pH, etc.)
- Highlight desired test point
- Holding down the right mouse button, drag and drop test point into desired sample plan on the left-hand side of the screen

Viewing Assigned Test Points in a Sample Plan

- Select the sample plan name and all associated test points will be listed
- The assigned sample plan will now also appear in the test point's drop-down menu selection
- Select "All Test Points" to return to list of test points

Test Point #	Sample Plans	Name
3	Mixing Line ▼	Slicer
4	Processing Line 1 ▼	Hopper
5	Processing Line 1 ▼	Conveyor

Click drop-down arrow to see full list of sample plan assignments for test point

Editing or Deleting a Sample Plan

Once an initial sample plan has been created, additional sample plans can be created, deleted or re-named by right-clicking on any sample plan name.

- Select "Add" to add another sample plan
- "Re-name" to change the name of selected plan
- "Delete" to delete the sample plan

Even though a sample plan has been deleted, it will not delete the associated test point or historical results. It will simply remove the listed sample plan from the drop-down menu on the main Test Point Setup screen.
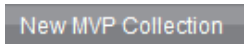
Note: See Chapter 21 – Database Management for information on impact of deleted historical data.

MVP Collections

MVP Collections analyzes data from multiple parameters to help identify trends as an interrelated set. For example, test points for ATP and pH can be assigned to the same MVP Collection plan. When analyzed, results will be compiled into the same report to illustrate the relationship (if any) between the two parameters. MVP Collections are created in Test Point Setup and analyzed in Raw Data.

Note: See Chapter 22 – Raw Data for instructions on analyzing MVP collections

Creating an MVP Collection

- Select "Test Point Setup" from software's top menu
- Click "New MVP Collection" from the left-hand column menu New MVP Collection
- Enter name of MVP Collection in pop-up box
- Once saved, the new collection will appear in MVP Collections listed below Sample Plans
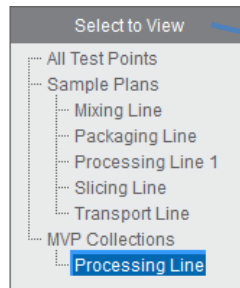
In the "Select to View" menu, users can toggle between viewing All Test Points and Sample Plans

Editing or Deleting an MVP Collection

Once an initial MVP Collection has been created, additional collections can be created, deleted or re-named by right-clicking on any collection name.

Even though an MVP Collection has been deleted, it will not delete the associated test points. It will simply remove the listed collection from the dropdown menu on the main Test Point Setup screen.

Note: See Chapter 21 – Database Management for information on impact of historical data once delete.

MVP ICON Dashboard Software Report Setup **18**

The MVP ICON Dashboard software features three categories of reports: Action Reports, Trending Reports, and HACCP Reports. These reports are designed to identify areas requiring immediate and corrective action, track and trend data, and provide audit-ready reports with a click of a button.

The report categories can be selected by clicking on the category button. A set-up screen appears for customization of the report settings, including report type, date range, test point range, etc. A general overview of the report settings follows.

Report Setup Menu
The report setup screen features a number of sorting and filtering capabilities, allowing the user to narrow and highlight the most pertinent information, per report.

Action Report Setup screen

Report Type
The top-left drop-down menu features a list of available reports available within each category (Action, Trending, or HACCP).

Date Range
Click the arrow next to "Date Range" for a pop-up calendar to select appropriate dates. The date range can be customized or determined by pre-set dates on the right side of the calendar (Today, Last 7 Days, Month to Date, etc.).

To customize the date range, navigate through the calendars to select a date range.
- Click the month and the calendar will zoom out to display all available months in the database
- Click the year to see the full list of available years

To select from pre-set date ranges, choose from the options to the right of the calendar (i.e. Month to Date, Last Quarter, etc.).

- The calendar will automatically populate with the selected pre-set date

Pre-set dates

Customize date range
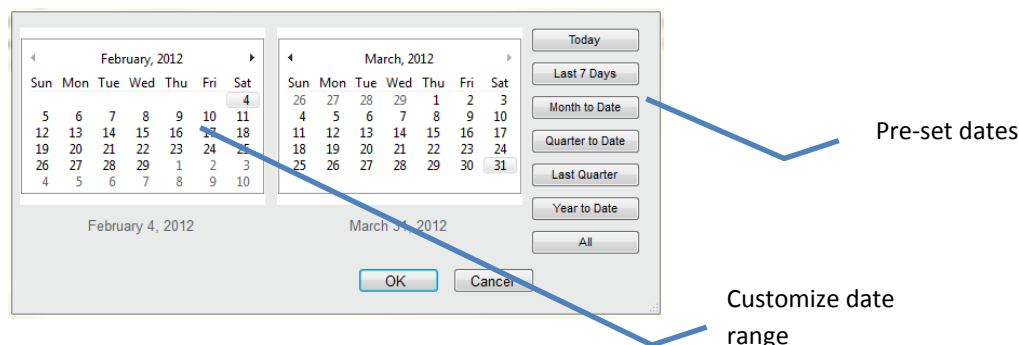
Computed Data

Computed Data allows users to change the way the data is calculated. For example, users can select between the percentage of Pass/Warn/Fail results or the number of Pass/Warn/Fail results, based on how they wish to view the information.

Chart Type

If multiple charts are available for a report, click "Chart Type" for a display of applicable options. Examples include: Stacked Column, Horizontal Bar Graph, Pie Chart, etc.

Created By

If desired, enter the user's name to appear on the report.

Description

This optional feature allows for a report description to appear on the printed report.

Test Point Type

Choose from ATP, pH, Temperature, Conductivity or Concentration.

Test Point Set Selection

This area allows users to select data by an individual or range of test points, sample plan, or custom fields.

By Test Point Range
- For an individual test point, enter the test point number
- For a range, enter the starting and ending range as such: 1 – 5 or list by commas in the same fashion as a printer: 1, 2, 4 – 10
- For all test points, type "ALL" in the "By Test Point" field

By Sample Plan
Use the drop-down arrow to select the desired sample plan
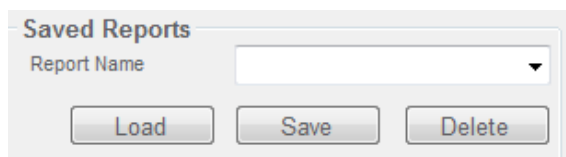
By Custom Field
- First choose the Custom Field title (ex. Surface Type)
- In the field below (Custom Field 1, 2, 3) use the drop-down arrow to select the custom designation (ex. Stainless Steel)

Saved Report
Once all report criteria has been selected, the report template can be saved for future use.
- **Create a Saved Report** – Enter desired name in the "Report Name" field. Click "Save" to have report in drop-down box for future use.
- **Load a Saved Report** - To load a saved report, select appropriate report from the Report Name drop-down. Select "Load" and criteria will auto-populate.
- **Delete a Saved Report** - Select desired report from drop-down menu and click "Delete"

Company Logo
The user's company logo can also be inserted into the top right corner of any report and will display once the report has been generated. Please see Chapter 25 – ICON Software Setup for complete instructions.

Print Function
The printer icon, located at the top-left corner of the screen, will display any chart and accompanying data table in PDF format. Reports can be printed or saved as a PDF file.

NOTE: To print only the graph and exclude the data table, choose the "Pages" option from the print menu and enter 1 to print only the first page.

Action Reports

What are Action Reports?

Action Reports are designed to help identify and direct QA managers to problematic areas in the facility requiring attention for immediate and corrective action.

Action Reports can be accessed from anywhere within the software by clicking the "Action Reports" button at the top of the screen.
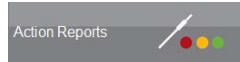
Once selected, the Action Report Setup screen will open. See Chapter 18 – ICON Software Setup for more information on the setup menu.

Type of Action Reports

Choose "Type of Action Report" from a drop-down list of all available Action Reports.
- Fail Rate Report
- Pass/Warn/Fail Report
- Re-Test Report
- Test Point Min/Max/Avg

Fail Rate Report

The Fail Rate Report shows all failed test point results for selected parameter. This report will show the incidence of failure for each selected test point to direct the QA Manager to areas in the plant requiring the most attention.

Available chart type
- Horizontal bar

Example of Fail Rate Report

Test Point 87 failed 100% of the time

Data sorted in descending order of % Fail
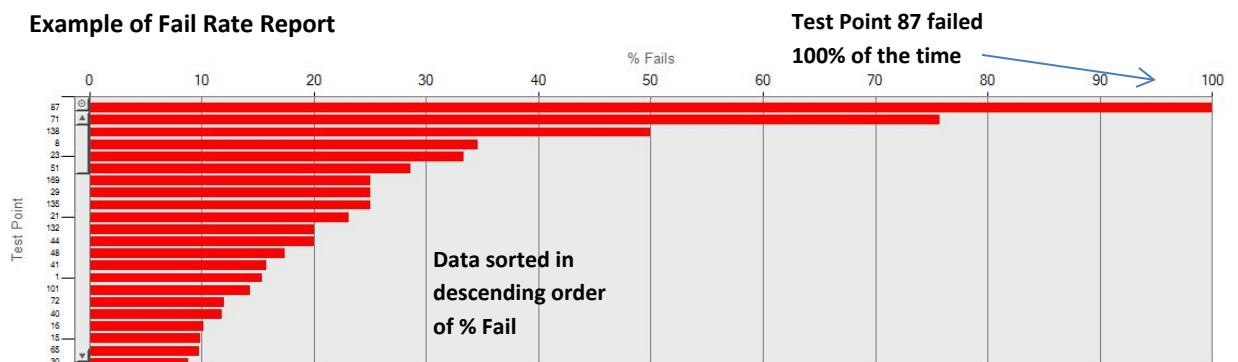
Computed Data Options
There are four different options of computed data for this report.
- **# Fails** – Calculates data by the number of failed test points; sorting defaults to # Fails in descending order
- **% Fails** – Calculates data by percentage of failed test points; sorting defaults to % Fails in descending order
- **# Warn/Fails** - Calculates data by the number of combined warn and failed test points; sorting defaults to # Warn/Fails in descending order (ATP only)
- **% Warn/Fails** – Calculates data by a percentage of combined warn and failed test points; sorting defaults to % Warn/Fails in descending order (ATP only)

Pass/Warn/Fail Report
Shows the pass, warn, and fail totals for each test point as a number or percentage. This graph gives an overall view of the health of a sanitation program, as well as, highlights emerging problems in the facility.

Available chart types
- Stacked Horizontal Bar
- Pie

Examples of Pass/Warn/Fail Report

Stacked Horizontal Bar

TP 71: passed 35 times, warned 11 times, failed 129 times
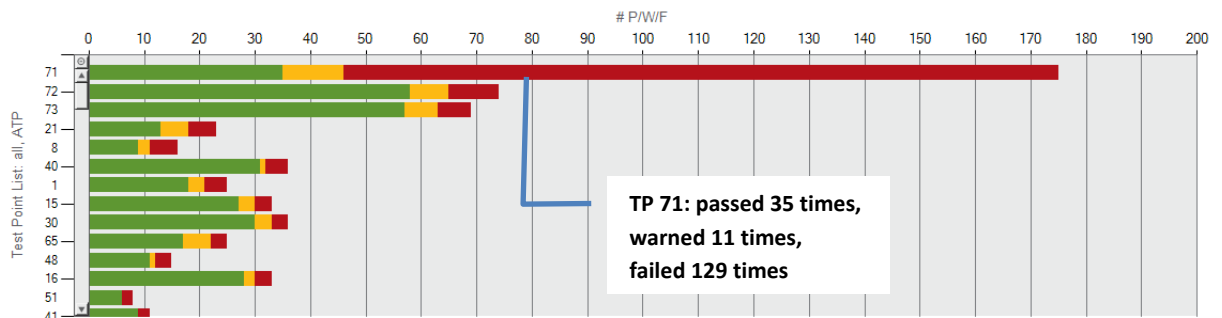
Data sorted in descending order by # P/W/F

Pie Chart
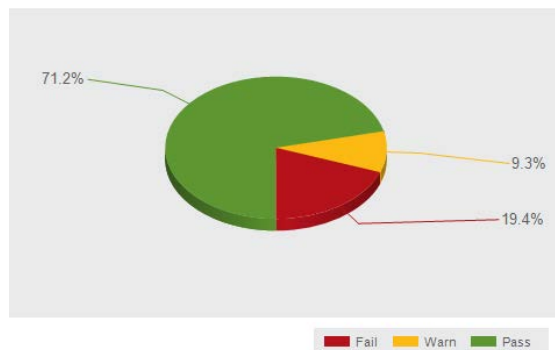
In one month, selected test points passed 71.2%, warned 9.3%, and failed 19.4% of the time

Computed Data Options

There are two different options of computed data for both chart types in this report.

- **% P/W/F** – Calculates the percentage of pass, warn, and fail results for selected amount of test points over a period of time; Stacked Horizontal Bar Chart sorting defaults by % Fails
- **# P/W/F** – Calculates the number of pass, warn, and fail results for selected amount of test points over a period of time; Stacked Horizontal Bar Chart sorting defaults by # Fails

Re-Test Report

The MVP ICON has the ability to track the re-test of a failed test point to verify if it was properly re-cleaned. This data is coded in the instrument and uploaded to the software for analysis. The Re-Test report indicates how many of the failed test points were re-tested to ensure standard operating procedures are followed, per the facility's HACCP program. Ideally, 100 percent of failed tests will be re-tested.

Note: It is critical before testing with the MVP ICON to determine if only failed results will be re-tested or if results with both a fail and warn reading will be re-tested, per your standard operating procedures. This impacts how the re-test data is displayed in the graph.

Available chart types

- Horizontal Bar

Example of Re-Test Report
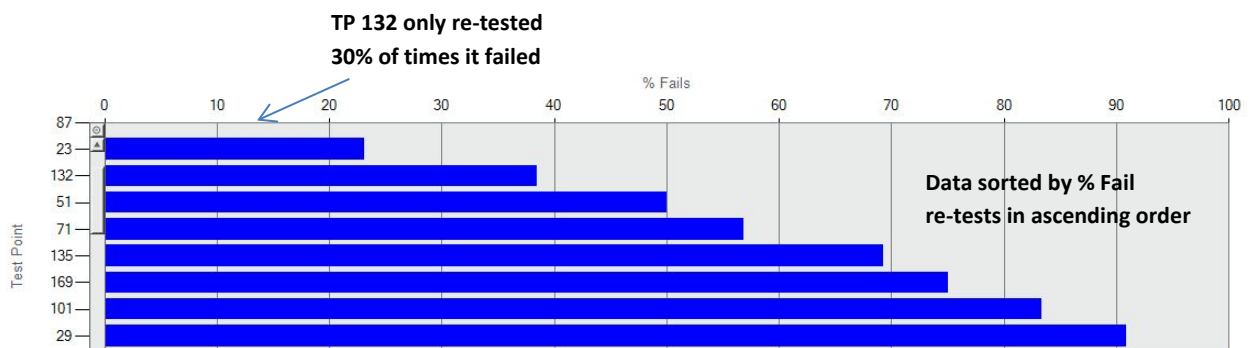
TP 132 only re-tested
30% of times it failed

Data sorted by % Fail
re-tests in ascending order

Computed Data Options

There are four different options of computed data for this report.

- **# Re-Tests (Fails)** – Lists number of times a failed test was re-tested; sorted in ascending order
- **% Re-Tests (Fails)** – Finds percentage of re-tests by calculating number of times a test point failed and number of times failed test point was re-tested; listed as a percentage in ascending order
- **# Re-Tests (Warn/Fails)** – Lists number of times a warn or failed test point was re-tested; sorted in ascending order
- **% Re-Tests (Warn/Fails)** – Finds percentage of re-tests by calculating number of times a test point warned/failed and number of times warned/failed test point was re-tested; listed as a percentage in ascending order

Min/Max/Average Report

Shows the minimum, maximum, and average result for each selected test point. Any outlying result in the fail range provides direction to potentially problematic areas in the facility requiring immediate attention.

Example of Min/Max/Avg

Min/Max/Avg vs. Test Point List: ALL, ATP
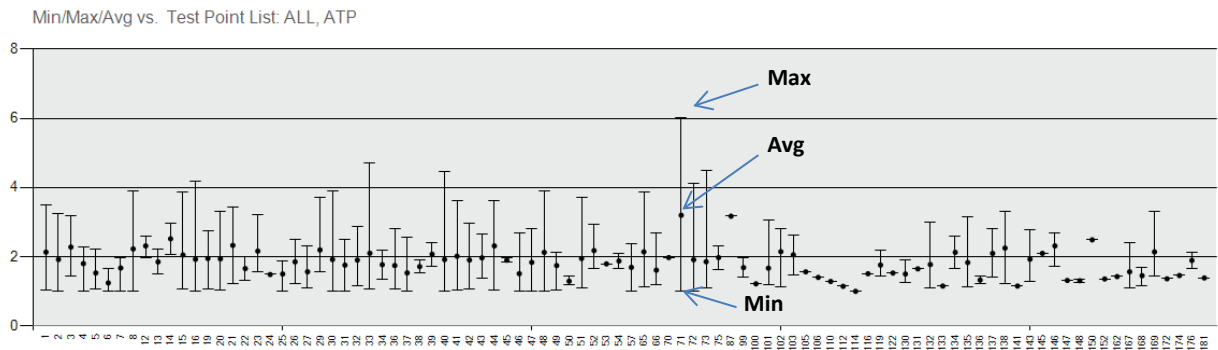
Computed Data OPTIONS

There is one type of computed data for this report.

- **Min/Max/Avg** – Lists the minimum, maximum, and average result of selected test points over a period of time

Sorting Graphs and Data Tables

The data table included in most reports lists all pertinent information such as date, created by, description, and computed data parameters. The default view of each graph highlights the most applicable information, specific to that report.

For example, the default view for Fail Rate Report is percentage or number failed in descending order, reflecting the most failed results to the least.

Each data table can be sorted according to user preference. Click the desired column header to change the sorting order (i.e. from low to high). A △ will appear on the column header noting the sort order (/: low to high and\: high to low). The sort order changes the order of data in the table and in the graph.

Zoom Function

Each graph features a slider bar with zoom in/out buttons to increase or decrease the amount of data displayed on the graph. Hold and drag the slider to zoom in/out on data.

Portions of data within a graph can be expanded by utilizing the drag zoom function.
- Click on the graph and a red line will appear
- While holding down the left mouse button, drag red line over portion of data to be expanded

See figures 1 and 2 for examples

Figure 1 – Before Drag Zoom
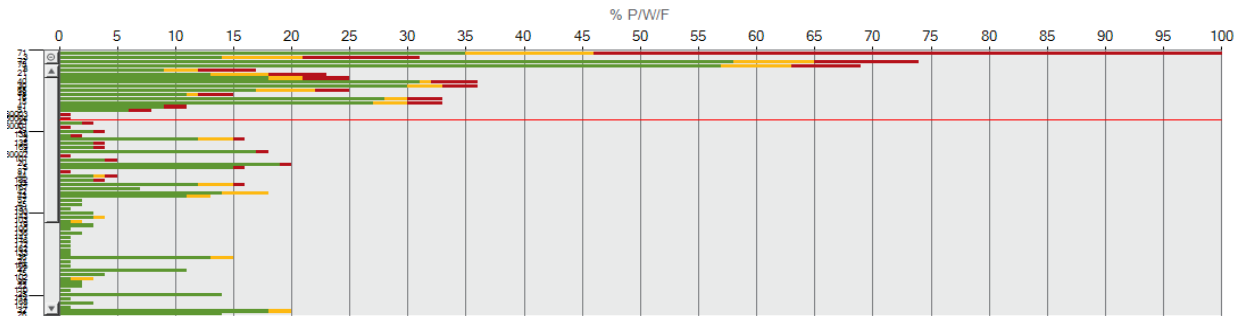
Figure 2 – After Drag Zoom
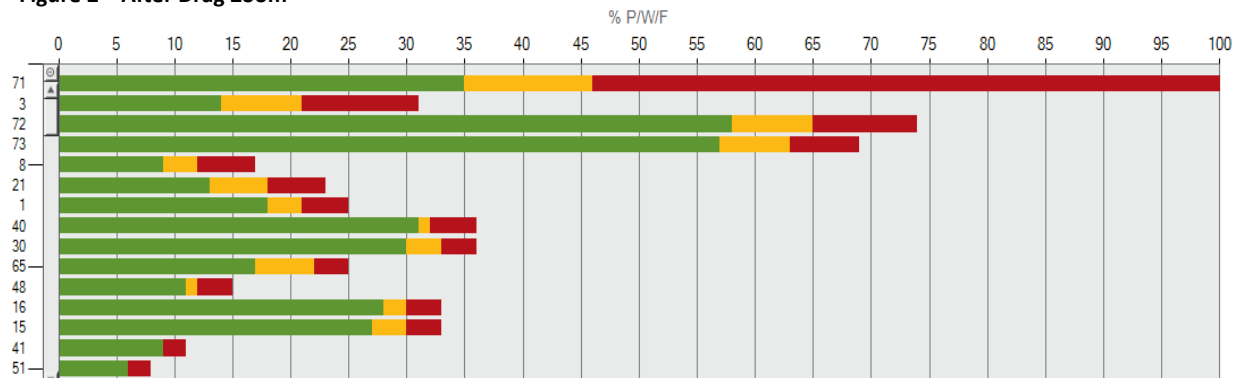
Trending Reports

What are Trending Reports?

Trending Reports track and trend data over extended periods of time. The reports available in this category help to identify test point behavior, establish patterns, and determine the overall health of a facility's sanitation program.

Trending Reports can be accessed from anywhere within the software by clicking the "Trending Reports" button at the top of the screen.

Once selected, the Trending Report Setup screen will open. See Chapter 18 – ICON Software Setup for more information on the setup menu.

Sorting Options

Trending Reports include specialized sorting options, relative to the report selected.

- **By Test Point** – When sorting by Test Point, data on the X-axis will list all available results in a particular time frame for each individual test point.

Figure 1

**All results for TP 20
from 1/29/12 – 2/26/12**
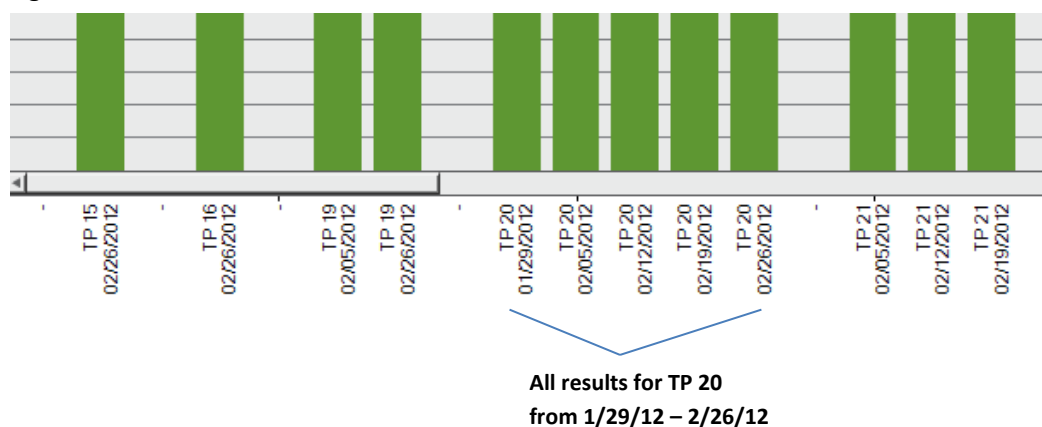
- **By Period** – If sorting by time period, data on the X-axis will list all test point results for each period of time in a selected date range.

Figure 2

**All test point results
for 2/5/12**
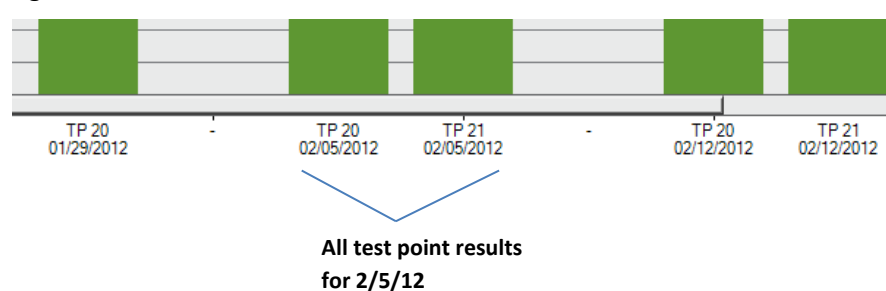
Grouped Data

In addition to sorting options for Trending Reports, Computed Data features the ability to group data. This function is useful when wanting to review all results for a specified period of time (Figure 3).

Figure 3

**All P/W/F results for weeks
1/29/12 – 2/26/12**
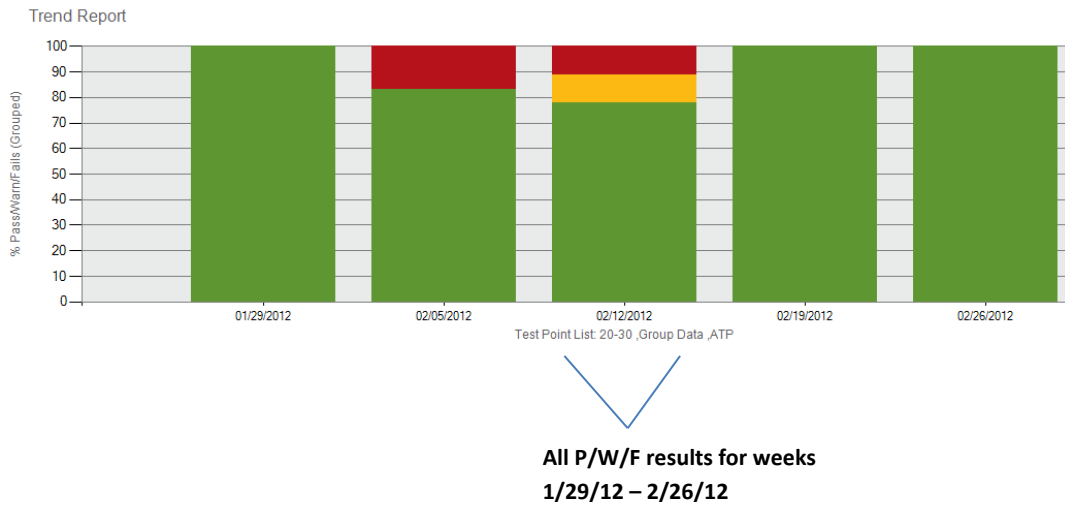
Type of Trending Reports

Choose "Type of Trending Report" for a drop-down list of all available Trending Reports.

- Pass/Warn/Fail Summary
- Average Test Point Summary
- Test Point Trend
- Re-Test Trend

Pass/Warn/Fail Summary

The Pass/Warn/Fail Summary shows all pass, warn, and fail results for selected test points over a specified period of time. Calculated as a number or percentage, this report demonstrates whether improvements made to a sanitation program are successful or highlights where a concentrated effort of improvement is needed.

Available chart types

- Stacked Column

Example of Pass/Warn/Fail Summary
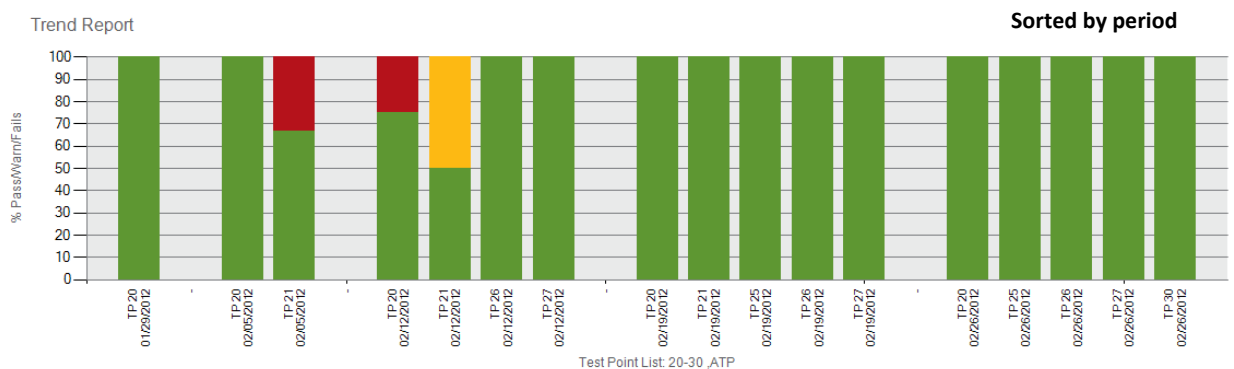
Computed Data Options

There are four different options of computed data for this report.

- **% P/W/F** – Calculates data by percentage of passed, warned, and failed test points; sort by test point or by period, graph view defaults to test point number in numerical order
- **% P/W/F (Grouped)** – Groups all pass, warn, and fail results for a specified period of time; sorting by test point/period not an option
- **# P/W/F** – Calculates data by number of passed, warned, and failed test points; sort by test point or by period, graph view defaults to test point number in numerical order
- **# P/W/F (Grouped)** – Groups all pass, warn, and fail results for a specified period of time; sorting by test point/period not an option

Average Test Point Summary

This report shows the average result for selected test points over a specified period of time. By looking at the average result for each test point, the user is given a quick overview of test point behavior to determine where problems, if any, reside. There are three types of charting options for this report:

Available chart types

- Line
- Column
- Min/Max/Avg

Examples of Average Test Point Summary

Line Chart – Sorted by Test Point
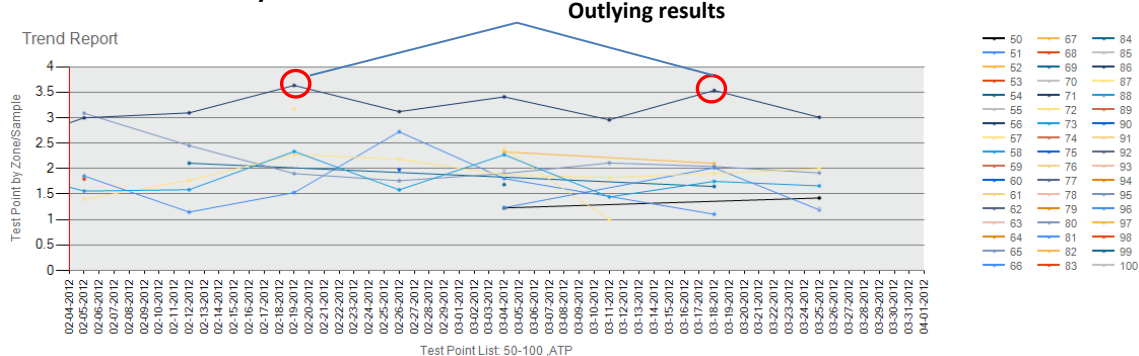
Min/Max/Avg Chart – Sorted by Test Point
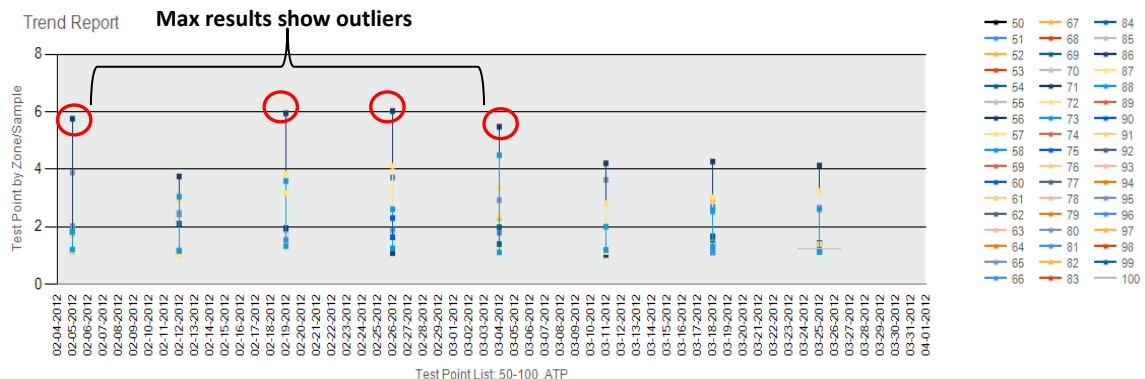
Min/Max/Avg – Sorted by Grouped Data
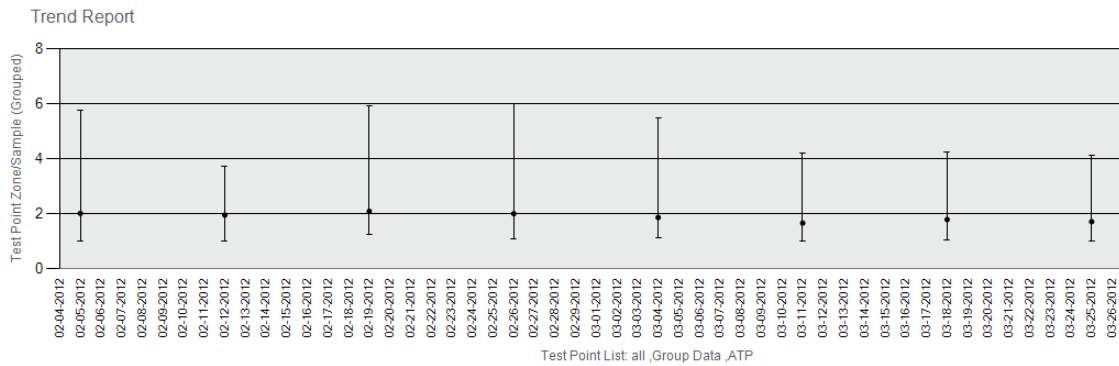
Column Chart – Sorted by Test Point
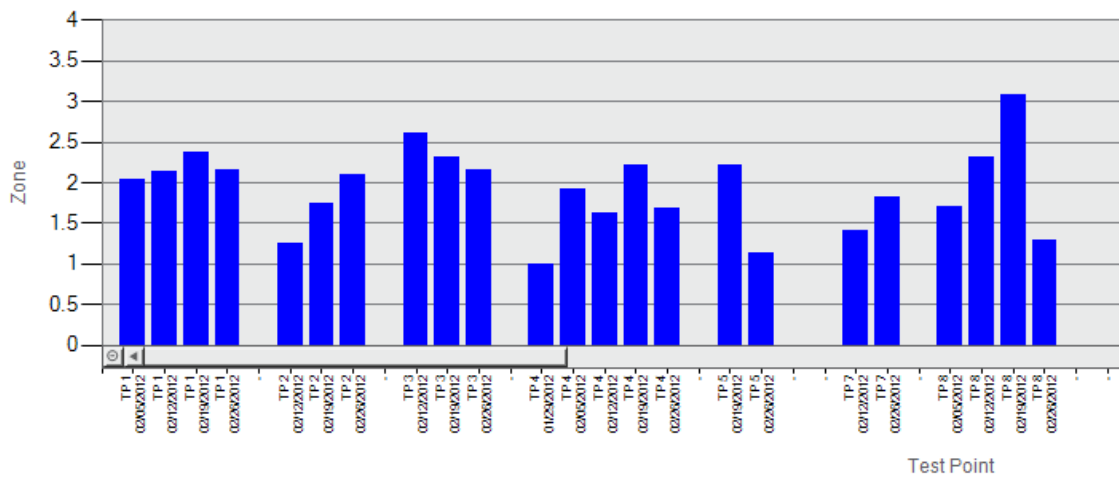
Computed Data Options

There are two different options of computed data for each chart type in this report.

- **Test Point by Zone/Sample** – Displays the average result for each test point sorted by test point only; default view by period in ascending order
- **Test Point by Zone/Sample (Grouped)** – Displays the average result for all selected test points as one line; default view by period in ascending order

Test Point Trend

Shows result for each individually selected test point, providing further detail to the Average Test Point Summary Report. While the Average Test Point Summary shows an overall view of outlying results, the Test Point Trend provides more in-depth analysis into each test point's behavior.

The "Results by Hour" option allows users to narrow down results by hour to determine if discrepancies exist between cleaning shifts. This information allows for a review in the cleaning process or a need for additional staff training.

NOTE: To select by this chart, choose "Hour" in Date Type under Date Range.

Available chart types
- Scatter

Examples of Test Point Trend

All results for TP 71 over a period of time
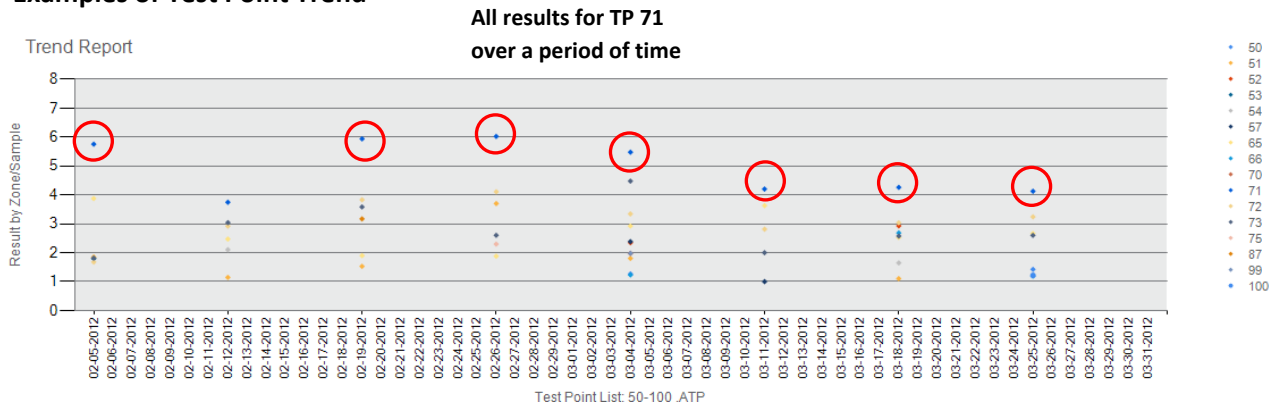
Example of Test Point Trend by Hour
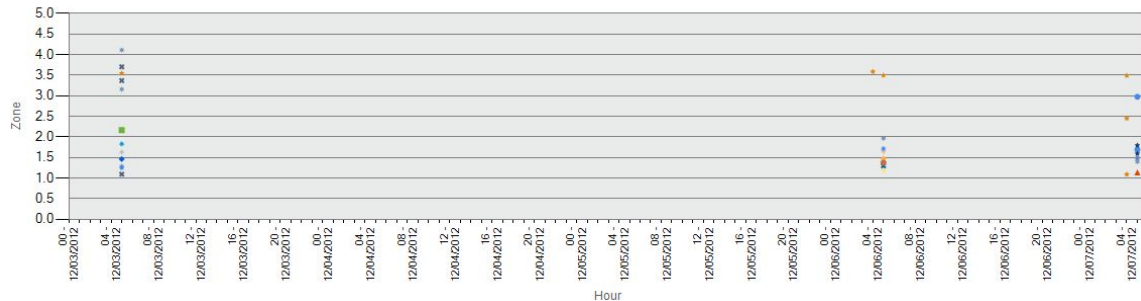
Lists time of day each test point was taken during a specified range

Computed Data Options

There is one option of computed data for this report.

- **Results** – Plots each test point result (as scatter plot) over a period of time; sorting defaults by test point number in ascending order. Grouped data is not an option.

Note: To view results by hour select "Hour" under Date Type under Date Range.

Re-Test Trend

This report provides a historical view of test points that have been re-tested after having previously failed over a period of time. Ideally, a test point will have been re-cleaned and re-tested every time it has produced a warn or fail result. By sorting the data by percentage or number of re-tests in ascending order, the chart will highlight which test point was re-tested the least amount of times.

This information helps direct action; improving the cleaning process and the program's health over a period of time.

Note: It is critical before testing with the MVP ICON to determine if only failed results will be re-tested or if results with both a fail and warn reading will be re-tested, per your standard operating procedures. This impacts how the re-test data is displayed in the graph.
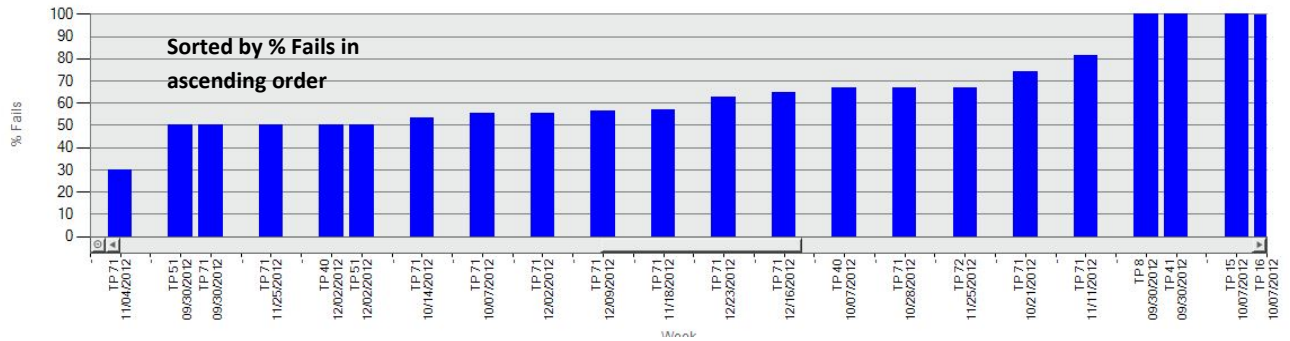
Available chart types

- Column
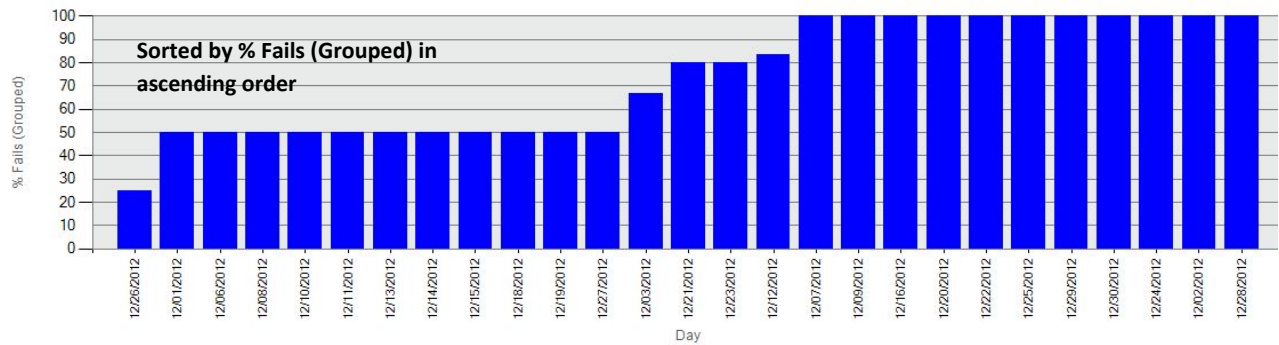- Line

Examples of the Re-Test Trend
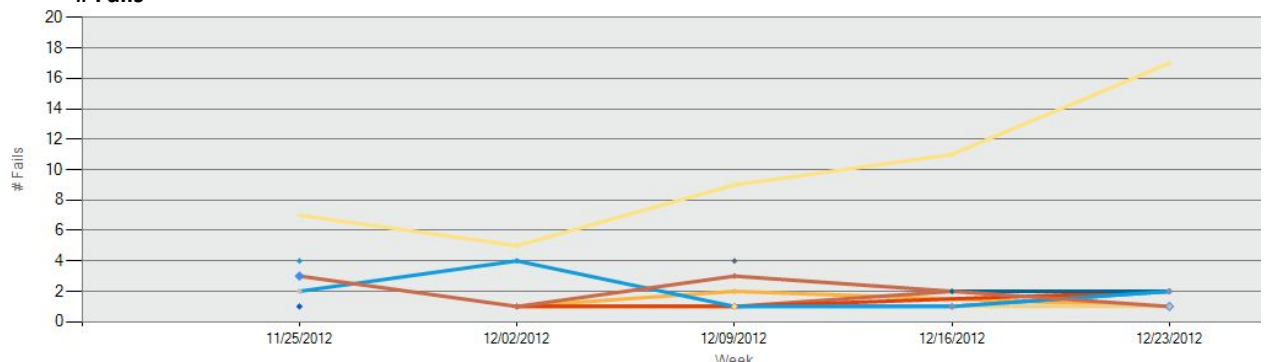
Re-Test Trend Column

% Fails

Re-Test Trend Column

% Fails (Grouped)
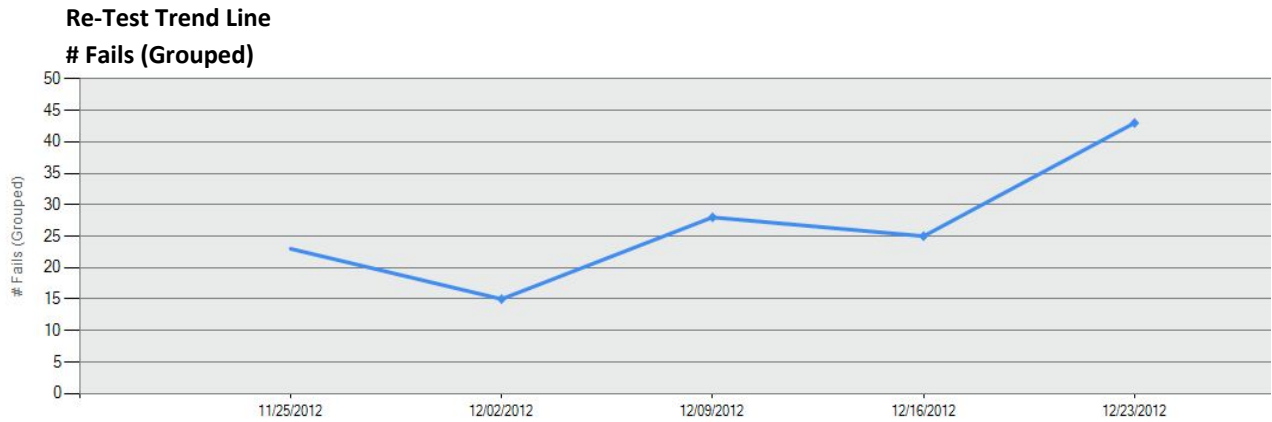

Re-Test Trend Line

 # Fails

Re-Test Trend Line

 # Fails (Grouped)

Computed Data Options

There are eight types of computed data for each of the charts in this report.

- **# Re-Tests (Fails)** – List number of re-tests in relationship to number of failed results in ascending order; sorting available by test points in a period

- **# Re-Tests (Fails-Grouped)** – Shows total number of re-tested test points in relation to failed results

- **# Re-Tests (Warn/Fails)** – Lists number of re-tests in relation to number of warn or failed results; sorting available by test point or period in ascending order

- **# Re-Tests (Warn/Fails -Grouped)** – Shows total number of re-tested test points in relation to warn or failed results

- **% Re-Tests (Fails)** – Calculates percentage of re-tests for a failed result over a period of time; sorting available by test point or period in ascending order

- **% Re-Tests (Fails-Grouped)** – Shows total percentage of re-tests in relation to failed results in a given period of time

- **% Re-Tests (Warn/Fails)** – Calculates percentage of re-tests for warn or failed results over a period of time; sorting available by test point or period in ascending order

- **% Re-Tests (Warn/Fails-Grouped)** – Shows total percentage of re-tests in relation to warn or failed results in a given period of time

HACCP Reports

What are HACCP Reports?

HACCP reports are audit-ready reports designed to help busy QA professionals demonstrate their sanitation program is on track and in compliance with their HACCP plan. Simply print and present.

HACCP reports can be accessed from anywhere within the software by clicking the "HACCP Reports" button at the top of the screen.
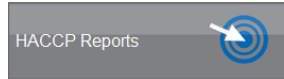
HACCP Report Setup Menu

Set target number of sampling devices for ATP Swab Usage Report

Select "By Device" to view Calibration / Verification by particular serial ID

Type of HACCP Reports

Choose "Type of HACCP Report" for a drop-down list of all available HACCP Reports.

- ATP Swab Usage
- Calibration / Verification
- Test Point Frequency
- Sample Plan Summary

ATP Swab Usage

Demonstrates the required sampling devices target in a given period is being met in accordance with the facility's HACCP plan. The report shows both the number of sampling devices used and usage percentage on the same page.

The target number of swabs is established in the HACCP Report Setup menu. (See previous page)

Example of ATP Swab Usage Report
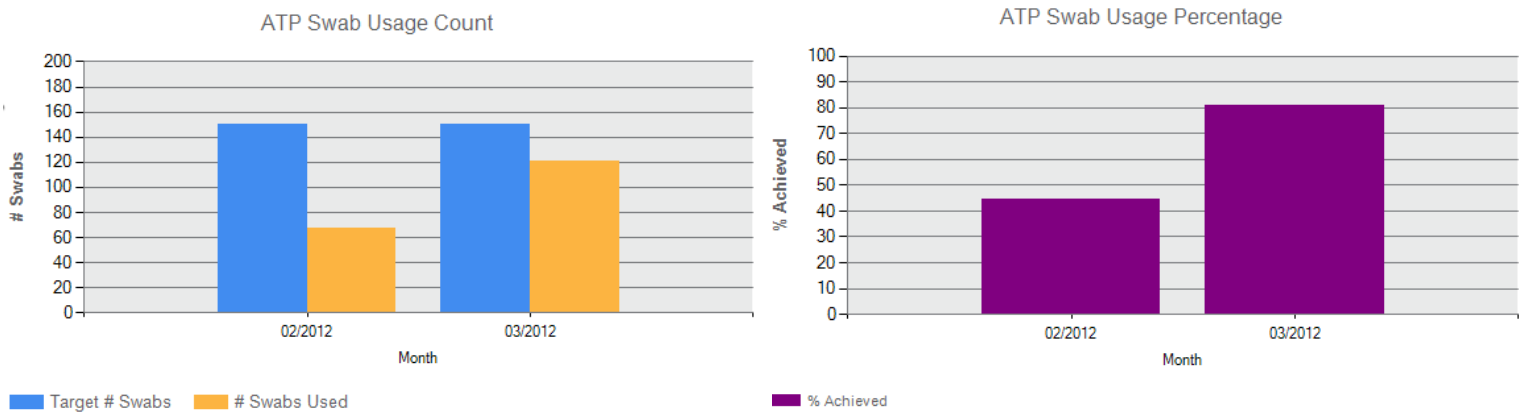
Computed Data Options

There is one computed data option for this report.

- **% Swabs Used** – Calculates percentage for number of used sampling devices compared to the set target

Calibration / Verification

Provides both calibration and verification on one page for selected dates. Verification includes both positive and negative controls (sampling devices) and luminescent and non-luminescent (instrument) results. This information demonstrates to an auditor the ICON system is calibrated on a routine basis, per the HACCP plan's specification.
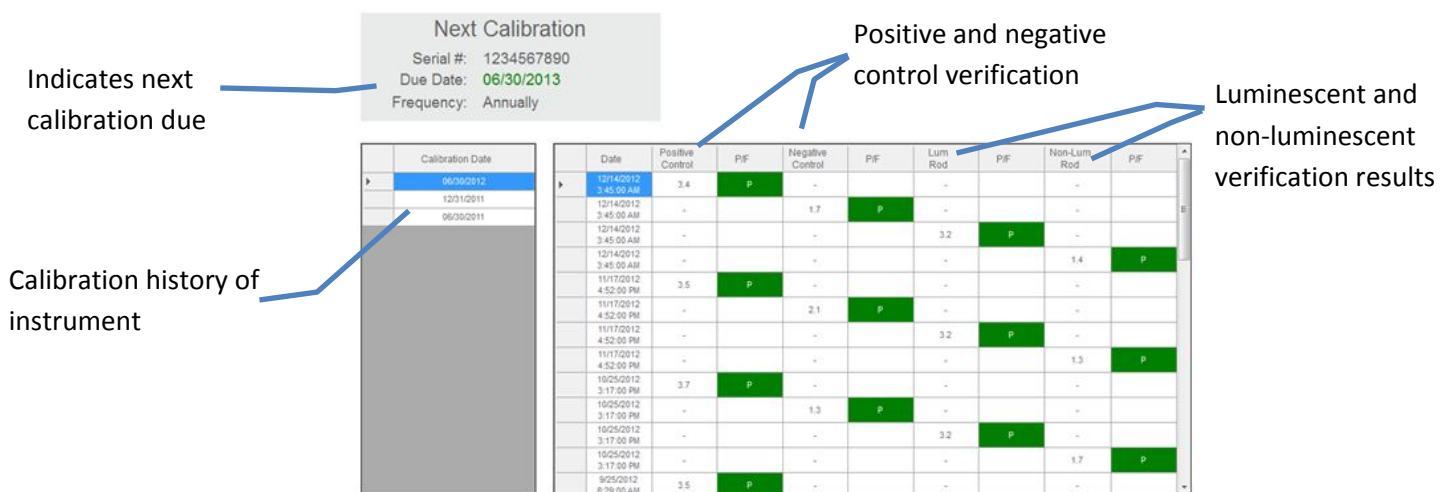
Calibration / Verification Computed Data
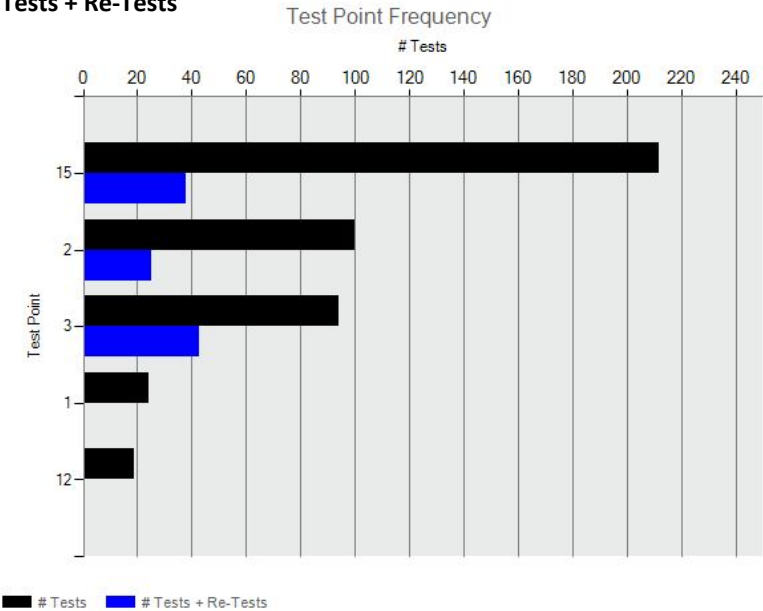
There is one data option for this report.

- **Results** – Displays historical record of parameter's calibration and verification results for a given period of time; select by individual serial ID or by all available devices

Test Point Frequency

Identifies how many times a particular test point has been sampled during a range or period of time, ensuring any identified problem areas are being tested equally and uniformly. This report includes re-test data to show the number of times a test point needed to be re-cleaned.

Examples of Test Point Frequency Report

 # Tests + Re-Tests

Test Point Overview
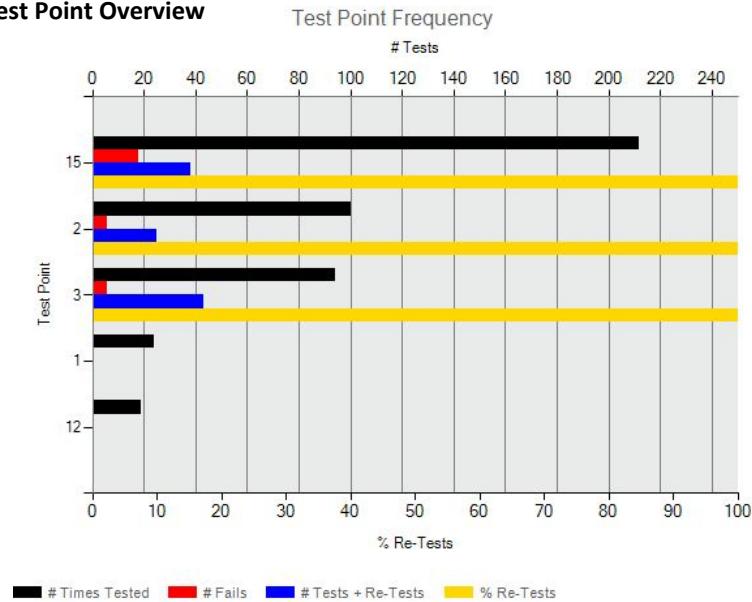
Computed Data Options
There are two different options of computed data for this report.
- **Test Point Overview** – Includes the following information for each test point: number of times tested, number times failed, number times re-tested, and the re-test percentage. Graph displays as double-axis to incorporate # and %
- **# Tests + Re-Tests** – Plots the total number of times a test point was sampled during a given period; includes # of re-tests for each test point

Sample Plan Summary
A collective summary of essential reports for an individual sample plan included on one page; contains Action, Trending, and HACCP reports. This report allows busy QA Managers to provide a comprehensive overview for a particular sample plan with a click of a button, eliminating manual report generation.
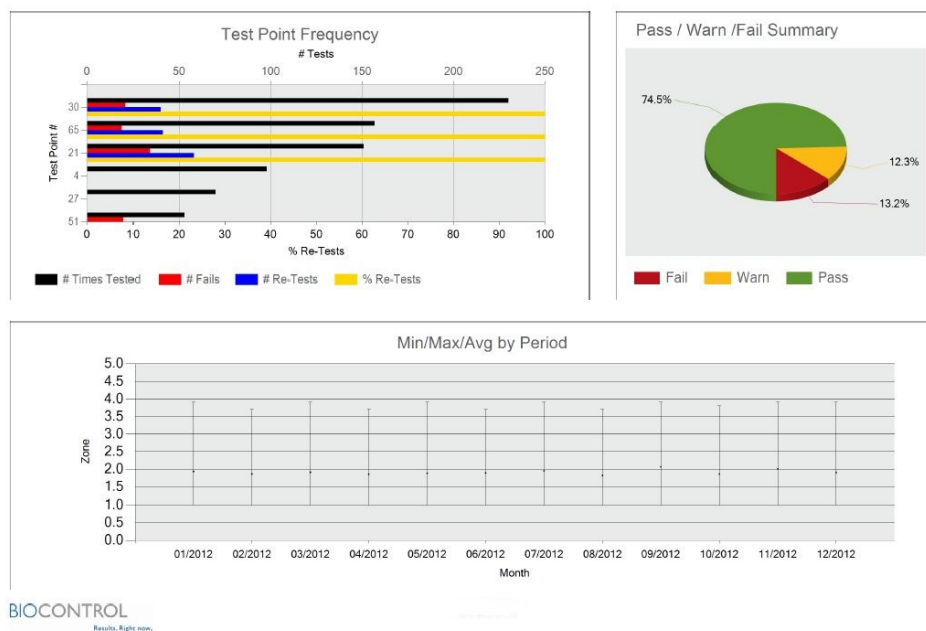
Included Reports
- Test Point Frequency (HACCP)
- Pass/Warn/Fail (Action)
- Min/Max/Avg by Period (Trending)

Example of Sample Plan Summary

Sample Plan Summary Computed Data
There is one type of computed data for this report.
- **Results** – Includes reports for Pass/Warn/Fail (pie chart), Average Test Point Summary (Min/Max/Average Grouped), and Test Point Frequency (Test Point Overview)

Raw Data

Results collected on the MVP ICON and transferred to the software are located in "Raw Data." Raw Data is a categorical list of pertinent result information including the test point name, number, date and time taken, sample plan assignment (if any), thresholds, re-test data, and optional customized fields. The type of information included in Raw Data is dependent on the selected parameter.

Sorting

Data can be sorted by each of the result columns (ex. Test Point #, Name, Date, Zone, etc.).
- To sort, click on the desired column and data will be listed in ascending order
- Click again to list in descending order

Note: Codes entered into the "Code" field on the ICON will transfer to Raw Data and can also be sorted. See Chapter 9 – Code Field for more information.

Result data can also be narrowed down by the assigned sample plan if the user is only interested in viewing results for a particular line.

Viewing Results by Sample Plan
- Click the name of the desired sample plan on the left-side column under "Select to View"
- Only results belonging to the assigned sample plan will be displayed
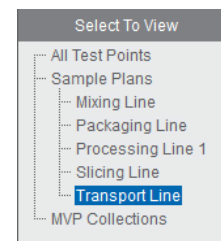
Printing Data

As with report charts and data tables, Raw Data results can be printed or saved as a PDF file.
- Click the printer icon located next to the home button on the icon toolbar
- Select File – Print to print all pages
- Select File – Save/Save As to save the data as an electronic file

NOTE: Results for ALL parameters will populate into the PDF file. To print data for only one parameter (ex. ATP) choose the appropriate number of pages to print in the PDF printing menu prior to printing report.
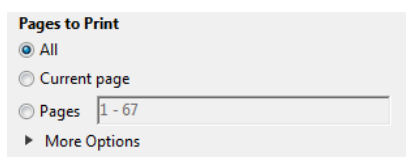
Exporting Data to Excel or LIP Program

See Chapter 24 – Database Management for instructions on exporting data to Excel or the LIGHTNING Index Proficiency (LIP) program.

Converting Quick Tests into a New Test Point

As mentioned in Chapter 8, the Quick Test function allows for unassigned areas in the facility to be tested without saving the results to a test point. Quick Tests also provide the ability to convert a saved Quick Test result into a newly assigned test point, once uploaded into the software.

When a Quick Test result is saved and uploaded to the Dashboard software, a new test point is created and the results are recorded in Raw Data. A Quick Test result is identified by its test point number (range starts at 50,000) and a white rectangle will be listed next to each Quick Test result in Raw Data. The new test point definition can be modified in the Test Point Setup screen. There are three ways to convert a Quick Test result into new test point:

Converting in Test Point Setup

When a Quick Test result is uploaded to the software, the Test Point Setup menu creates a test point in the 50,000 number range. To modify this test point definition:
- Click on the Quick Test number (ex. 50,001) and change to a new, unused test point number (ex. test point 182). 50,001 in Raw Data will now reflect the newly assigned test point number (182).
- Complete the test point definition by assigning a name and Warn/Fail thresholds in Test Point Setup

Converting in Raw Data

Quick Test results can also be converted to a new test point from the Raw Data menu.
- Create a new test point in the Test Point Setup menu (ex. 182)
- From Raw Data, locate the desired Quick Test result (ex. 50,001) and double-click the number
- A drop-down menu of all available test point numbers and names will appear
- Select the newly created test point (182) from the drop-down menu
- Quick Test result (50,001) in Raw Data will now be assigned as test point 182

Note: As Quick Test results numbers start in the 50,000 range, it is easiest to locate the results by sorting the Test Point # column in descending order. This will lists all Quick Test results in order.

Converting a Quick Test Result to a Previously Assigned Test Point

Should a Quick Test be taken for an assigned test point area in the facility, the result can be saved, uploaded to the software, and converted to a currently assigned test point. For example, if a Quick Test was taken for test point 43's location, the Quick Test can be located in Raw Data and converted to test point 43. The Quick Test result will now be listed as test point 43's result for that date and time.
- Locate the desired Quick Test result in Raw Data
- Double-click the number to activate the drop-down menu
- Click on desired assigned test point number (ex. 43)
- Quick Test result for that date and time will now be assigned to test point 43

Test Point Setup Example

Test Point #	Name	Sample Plans	Warn ≥	Fail ≥	ATP Custom Field 1	ATP Custom Field 2	ATP Custom Field 3
50000		▼	2.5	3.0			
50001		▼	2.5	3.0			
50002		▼	2.5	3.0			

Change Quick Test number to new, unused test point number

Raw Data Example

	ATP			pH				Temperature			Conductivity			Concentration	

	Test Point #	Name	Sample Plan	Date △	Time	Zone	PWF	Re-Test	User Code	ATP Custom Field 1	ATP Custom Field 2	ATP Custom Field 3	Warn SetPt	Fail SetPt	Memo
▶━	50000			04/05/2013	07:55 AM	3.8	-						0.0	0.0	
━	50001			04/05/2013	07:55 AM	4.0	-						0.0	0.0	
━	50002			04/05/2013	07:56 AM	3.9	-						0.0	0.0	

Quick Test symbol

Quick Test number

Drop-down to Select Test Point Number

Select Quick Test replacement test point number:

	Num	Name
▶	1	Hopper 1
	2	Blender
	3	Slicer 2
	4	Conveyor
	5	Tuber
	6	Slitter
	7	

OK   Cancel

Analyzing MVP Collection Data

As mentioned in Chapter 17, test point results from multiple parameters can be combined to view data as an interrelated set. This helps to identify any potential trends that exist between the individual parameters. Please see Chapter 17 for setting up an MVP Collection.

How to Analyze Data MVP Collections in Raw Data

- Click on the desired MVP Collection under the "Select to View" section to the far left of the screen
- Columns are first sorted by test point number, then by date to group all related parameters for a particular test-point together. Data for each parameter is sorted in the appropriate column.
- Each column can be sorted by the desired column order; either ascending or descending
- The first six columns in MVP Collections will be frozen to allow users to view other parameters for data analysis

Printing MVP Collections

Due to the size and format of MVP Collection data, it cannot be printed as a PDF file from the software. Instead, copy and paste all data into an Excel file by highlighting the data and pressing "Ctrl + C" from your keyboard, then pasting into an Excel file.
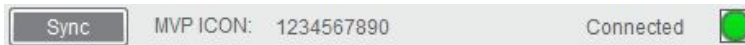
Device Communication ## Sync

By syncing the instrument to a database, the two will be paired together and the database will recognize its partner instrument in any future communication. To transfer test points, sample plans, and collected results between the ICON instrument and software, the instrument and software must first be synced.

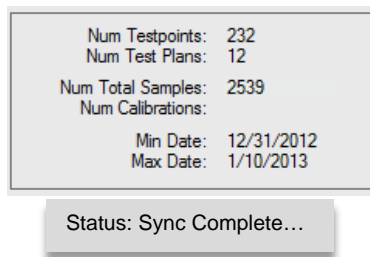Below are the following ways in which the instrument and software communicate:
- Transfer test points and sample plans to the device
- Transfer results from the instrument to software
- Transfer test point and sample plan information from instrument into the software to create a new database

Syncing the MVP ICON to a database
- Launch software and choose an existing database or create a new one
- Connect MVP ICON to computer – the instrument will turn on automatically
- Software will display a green "Connected" button in top right of the screen when the instrument and software are communicating
- Press "Sync" located next to the "MVP ICON" serial ID on the dashboard toolbar

Sync	MVP ICON:	1234567890	Connected	🟢

- A pop-up box will indicate when the sync process begins and completes

Num Testpoints:	232
Num Test Plans:	12
Num Total Samples:	2539
Num Calibrations:	
Min Date:	12/31/2012
Max Date:	1/10/2013

Status: Sync Complete…

Results, if any, will now be transferred from the instrument to the database and any newly created test points or sample plans will be transferred onto the instrument.

When the instrument is unplugged from the computer, the software will display the "Disconnected" status.

Disconnected ❌
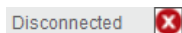
Communication Scenarios

Once an instrument has been paired with a database, the two are used congruously. Multiple instruments can be paired to the same database, however, each instrument can only contain one database at a time.

See table below for an explanation of database and instrument scenarios.

Database	ICON Instrument	Action
Database Empty	Instrument Empty	MVP ICON and database are synced
Database Empty	Instrument Has Data	Database is empty. MVP ICON instrument has data. Create database from MVP ICON data? Yes/No
Database Has Data	Instrument Empty	The database and instrument will sync. Test points and sample plans will transfer to the instrument.
Database Has Data	Instrument Has Data From Another Database	This instrument does not belong to this database. Download current database to instrument? All data will be lost! Yes/No User must first erase data manually from instrument or via software

Deleting Test Points from Database

Deleting a test point will remove all associated data from the database. To save this data, results must first be archived prior to deleting the test point (see Chapter 24 – Database Management.) The following warning message will appear before a test point is deleted:

- "Deleting this test point will remove all associated data from the database. To save this data, results must first be archived prior to deleting test point. Do you wish to delete the test point(s) at this time?" Yes / No

After the test point has been deleted from the database, any remaining results on the instrument must be deleted manually from the device or via the software (see Chapter 25 MVP ICON Setup).

When an instrument containing results for a deleted test point is synced to the database, the following message will appear:

- "Results from test point(s) 'x' cannot be downloaded as these test points do not exist in this database. They may have been previously deleted. Do you wish to delete the associated data from the MVP ICON instrument at this time?" Yes / No
- To download these results, the archived database with historical test point information must first be restored into the software

Note: Archived database must be from a time prior to test point deletion.

Re-using a deleted test point

Once a test point has been deleted, it can be re-used for another assignment. It is recommended the deleted test point's historical data be archived prior to deletion (see Chapter 24 – Database Management.) Results for the deleted test point must be manually deleted from the ICON instrument prior to syncing.

- Click "New Test Point" from the Test Point Setup menu in the software
- The test point number will be assigned the maximum value in the list (ex. if last test point in list is 500, 501 will be the new test point number)
- Click the "Test Point #" cell to highlight the test point number
- Change to the desired test point number of any deleted test point

Note: Test point numbers must be unique. There cannot be two test points with the same number. A warning will appear if attempting to assign an in-use test point number.

Database Management

Creating an MVP ICON database

Multiple databases can be created in the MVP ICON software and loaded one at a time. Upon installation of the MVP ICON software, a prompt will require creating a new ICON database.

- Select "New" from the prompt
- Database will automatically assign to a directory. Change directory to a different desired location, if necessary.
- Input desired name of database file
- Select "Save"

Importing an MVP ICON database

To load an existing MVP ICON database:
- File
- Open
- Browse for database (.sdf file)
- Select "Open" in the browser to retrieve

The selected database will now be imported into the software. The database name and number of associated results is located above the "Connected/Disconnected" graphic on the top right screen.

Database name and number of test points
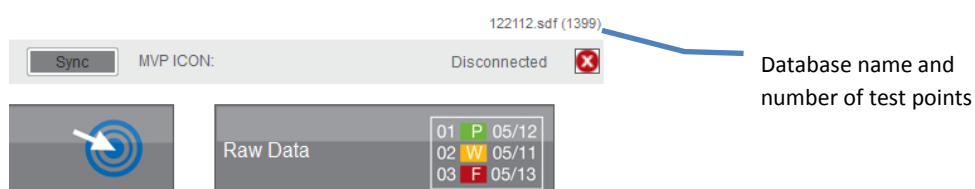
Importing Data from MVP TRAX

Historical data from BioControl's LIGHTNING MVP TRAX software can be transferred to the MVP ICON software for a seamless system conversion. Results from the MVP ICON software cannot be transferred into TRAX.

Note:
   a) *Importing historical TRAX data **must be the first action** prior to creating any new test points or sample plans in order for data to import properly*
   b) *The minimum threshold must be greater than or equal to 1.3 zones and the maximum threshold must be less than or equal to 5.0 Zones*

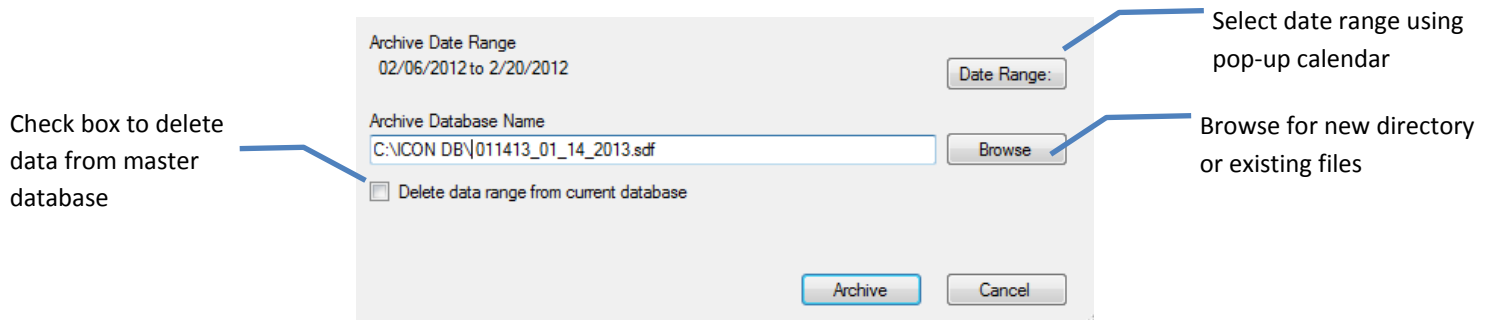Create a new database
- File
- New

Import historical TRAX data
- File
- Open
- Import Data from Excel
- Browse for TRAX file and press "Open"

Archiving a database

Archiving a database allows a sub-set of information to be saved as its own database. Data from the master file can then be kept or deleted from the archived date range.
- File
- Archive Database
- Select data range
- Archive will automatically direct to the computer's C: drive unless otherwise directed (click Browse to change directory)
- Select the check box to delete data from master database once archived, if desired
- Press "Archive"

Archive Date Range
02/06/2012 to 2/20/2012 — Date Range:

Select date range using pop-up calendar

Check box to delete data from master database

Archive Database Name
C:\ICON DB\011413_01_14_2013.sdf — Browse

Browse for new directory or existing files

☐ Delete data range from current database

Archive   Cancel

To load an archived database, follow the instructions "Importing an MVP ICON database" above.

Exporting to Excel

Data can be exported to Excel to view in a standardized format for additional data analysis or for importing into other Microsoft Office-based programs, such as Access.

- File
- Export Data
- Select drop-down arrow next to "Filename" to name file and choose directory
- Select drop-down arrow next to "Date Range" to customize date range of data to export
- Check box next to "Export to Excel"
- Select "OK"
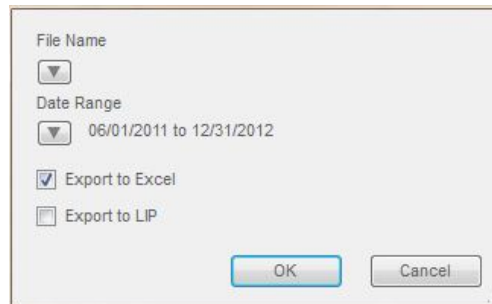
Exporting to LIP

The Lightning Index Proficiency (LIP) program is a service offering from BioControl Systems for facilities wishing to see how their results compare to an industry or corporate-level standard.

- Follow the export directions above through selecting a date range
- Check box next to "Export to LIP"
- Send file as an attachment to LProgram@biocontrolsys.com to receive a formatted report

Importing from Excel

The import function is primarily to import historical TRAX data into a new database which, as mentioned earlier, must be done prior to creating any new test points or sample plans. The database must be empty to import an Excel file.

Create a new database

- File
- New

Import Excel file

- File
- Open
- Import Data from Excel
- Browse for Excel file and press "Open"

The database will then be populated with the imported file information.

MVP ICON Setup

Preferences

MVP ICON Setup allows for the customization of certain screen items on the instrument such as, timing for the screen's dimmer and setting the Delete and Quick Test passwords.
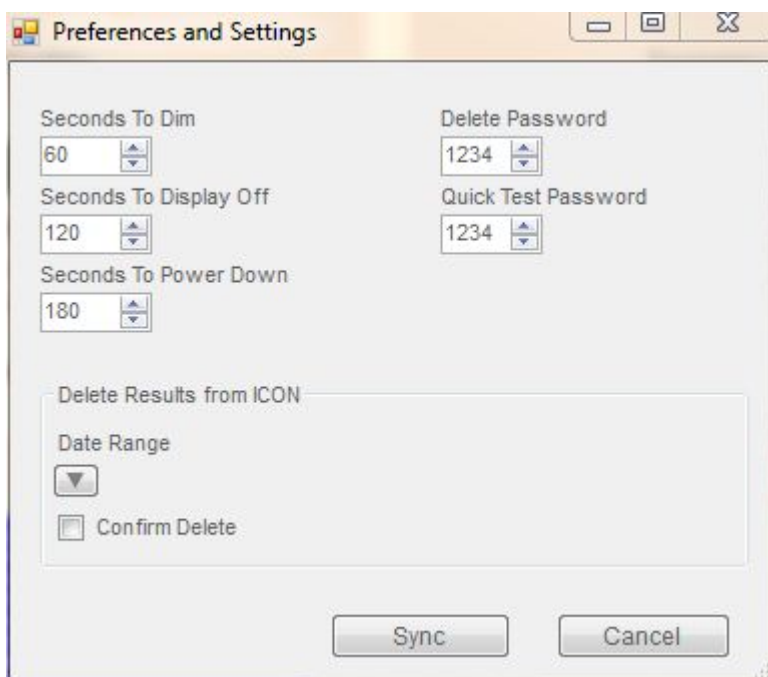
Changing screen timing settings

The MVP ICON instrument arrives with preset timing for the screen's dimmer. To preserve battery life, the settings are as follows:

- Seconds to Dim – Screen will automatically dim after 1 minute of inactivity
- Seconds to Display Off – Screen will turn dark after 2 minutes of inactivity; simply touch to awaken device
- Seconds to Power Down – Unit will turn off after 3 minutes of inactivity

These settings can be customized to the user's preference within the MVP ICON Software. Please note, changing these settings will impact the battery life of the instrument.

- ICON Setup
- Preferences
- In any of the three timing categories listed above, use the up/down arrows to change or manually enter time in seconds
- Press "OK"

Passwords

Optional passwords can be set for both the Delete function and Quick Test Password on the instrument.

- ICON Setup
- Preferences
- Delete Password – Enter password, up to 4 digits
- Quick Test Password – Enter password, up to 4 digits
- Press "OK"

The passwords will be implemented on the instrument once synced.

Delete Results from MVP ICON via Software

Results on the MVP ICON instrument can either be deleted manually from the instrument or via the software. To delete results from the instrument via the software:

- ICON setup
- Preferences
- Delete results from ICON
- Select date range
- Confirm delete

MVP ICON Software Settings

Preferences

Choose language, date/time format, and result scale (Zones/RLU) from the software's "Preferences" menu.

- Select "Settings" from the software's top toolbar
- Select "Preferences"

Languages

Choose from the following languages:

- English
- Spanish
- Portuguese
- German
- French

Preferences Menu

Date Format

Choose from the following date formats:

- MM/DD/YYYY
- YYYY/MM/DD
- DD/MM/YYYY

Time Format

Time is available in 12-hour or 24-hour format.

ATP Results Scale

Results are always displayed in Zones. In addition to Zones, results can be displayed as RLUs (Relative Light Units). To select RLUs, simply check the box next to RLU in the ATP Results Scale. Only one scale can be displayed at a time. For example, if Zones is selected results will only display in Zones.

Firmware Upgrade

The MVP ICON's firmware can be upgraded via the Dashboard software, when necessary. Should a new version of firmware be made available via BioControl's Web site, it can be downloaded, saved to the computer, and uploaded via the software.

To upgrade MVP ICON's firmware:

- Download firmware from www.biocontrolsys.com
- Save to computer
- Select "Firmware Upgrade" from the "Settings-Preferences" menu
- Follow the prompts

Contact BioControl Technical Support for assistance.

User Info

These optional fields allow for customization of company information for reporting purposes. The three fields of customization are Company Name, Database Description, and Company Logo.

Company Name

Enter your company's name in this field to appear in the header of all generated reports.
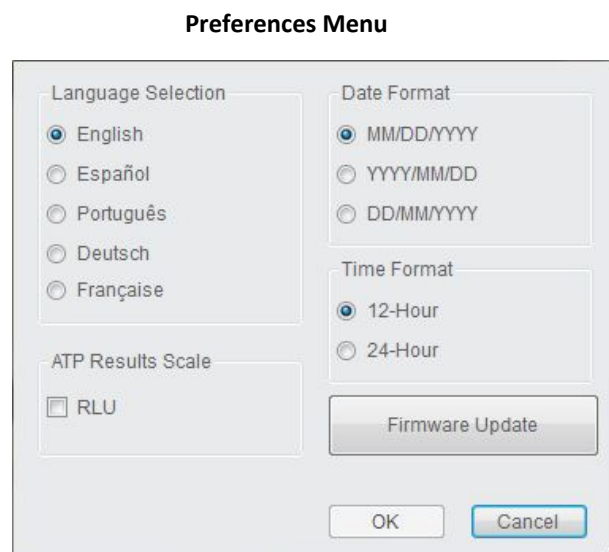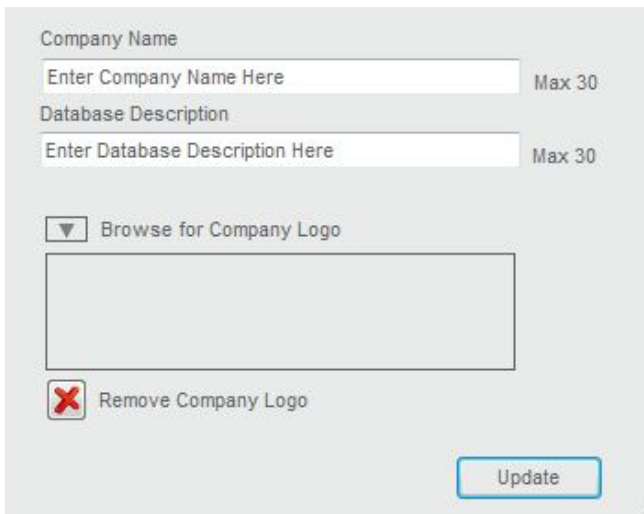
Database Description

Entering a description for the database helps identify it from other saved databases and provides a brief summary or description as to what types of test point or sample plan information may be included.

Company Logo

A company's logo can be inserted onto all graphs to further personalize reports.

- Select "User Info" from the "Settings" menu
- Click the drop-down arrow next to "Browse for Company Logo"
- Select image from computer or network drive
- Once "Update" is selected, the company's logo will be inserted onto all graphs
- To remove image, click the red "X" in located next to "Remove Company Logo"

Note: MVP ICON Software supports the following image extensions for company logos:
*.bmp, *.jpg, *.jpeg, *.gif, *.tiff, *.tif

Displays software version number and provides a link to BioControl contact Information.

About MVP ICON Dashboard Software

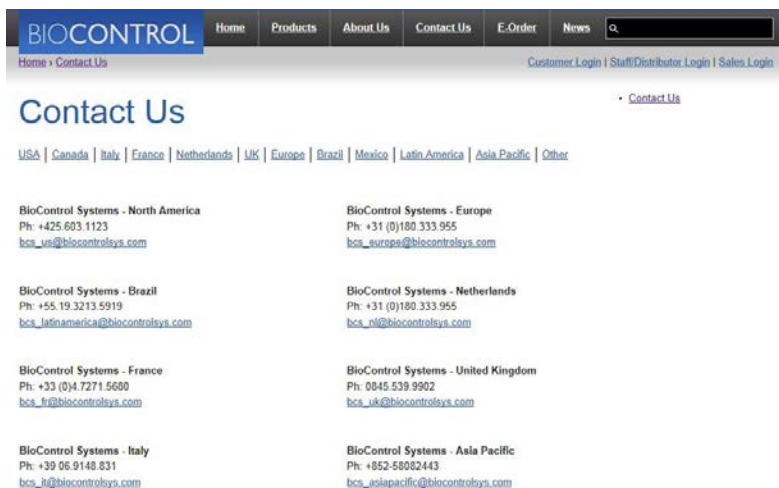This screen provides relevant data about the software, such as, software version and database ID, last database update, etc.

Select Contact BioControl to be directly linked to the BioControl Web site contact page. The computer must be connected to the Internet for the link to work.

Troubleshooting

Please refer to the guidelines below for resolving system issues. If the proposed solutions do not correct the issue, please contact BioControl Technical Support at 800.245.0113 or an authorized BioControl distributor.

MVP ICON Instrument Error Messages
Please refer to the grid below for the following MVP ICON instrument error messages and the appropriate action to take for resolution.

Error #	Error Message	Required Action
1	Contact Technical Support	
2	Contact Technical Support	
3	Contact Technical Support	
4	Contact Technical Support	
5	Contact Technical Support	
6	Contact Technical Support	
7	Probe Not Connected	Ensure probe is correctly and securely connected to MVP ICON instrument.
8	Unstable Readings. Repeat Test. Contact Technical Support if Problem Persists.	
9	Memory Full; Sync Device and Delete Results.	
10	Contact Technical Support	
11	Low Battery	Charge MVP ICON using wall adapter until the battery is full
12	Calibration Failed	Refer to appropriate parameter DFU for calibration. If calibration continues to fail, contact BioControl Technical Support.
13	Calibration is Required Before Testing	Calibrate MVP ICON for ATP
14	Calibration is Required Before Testing	Calibrate MVP ICON for pH
15	Calibration is Required Before Testing	Calibrate MVP ICON for Temperature
16	Calibration is Required Before Testing	Calibrate MVP ICON for Conductivity
17	Calibrate Chemical Standard	Calibrate Concentration Chemical Standard
18	No Chemical Standard Assigned	Assign a chemical standard in the software and sync to MVP ICON

19	Chemical Standard Does Not Exist in Database	Create a chemical standard in the software and sync to MVP ICON
20	Chemical Standard Does Not Exist in Database	Ensure chemical standard has a name assignment in software and sync to MVP ICON
22	This Plan is Too Large To Shuffle	Maximum test point allotment per sample plan is 245 points
23	Incorrect Password	Enter correct password. To verify or change password, please refer to the MVP ICON User Guide
24	Chamber Door is Open	Close chamber door
25	Contact Technical Support	
26	Contact Technical Support	
27	Baseline Reading Required; Remove swab. Close chamber door. Acquiring Baseline	After following appropriate procedure, the following message will appear with a progress bar. If message still persists, contact BioControl Technical Support.
29	Swab Read Error; Use MVP ICON Sampling Device	Incorrect swab was used. Only BioControl manufactured swabs can be used in the MVP ICON
30	Calibration Successful	
31	Calibration Failed	
32	Baseline Reading Required; Remove swab. Close chamber door. Acquiring Baseline	After following appropriate procedure, the following message will appear with a progress bar. If message still persists, contact BioControl Technical Support.
33	Close Chamber Door	The chamber door is open. Close the door and press OK.
34	Remove Sampling Device	A swab is in the chamber for an extended period of time and no test is in progress. This message also appears when turning off the instrument with a swab still in the chamber.

MVP ICON Instrument

Issue: MVP ICON will not charge. The screen remains blank even when connected to a battery charger.

Resolution: 1) Verify the connections are secure and a power source is active.
2) If the power source is not active, unscrew the battery cover on back of instrument, disconnect and reconnect the battery, ensuring the cover is properly tightened. If the instrument still does not turn on, the lithium ion battery may need replacement. Contact BioControl Technical Support.

Issue: A small amount of liquid has been spilled on or into the MVP ICON instrument.

Resolution: Turn the MVP ICON off and keep it vertical in a dry, low-dust environment, with the sample chamber door open. Allow sufficient time for the internal liquid to evaporate.

Issue: Background readings are too high, ATP sensitivity is too low, or these parameters have changed suddenly.

Resolution: First, ensure liquid was not spilled inside the MVP ICON instrument. If liquid was spilled, allow it to dry completely. Next, it is recommended to run the MVP ICON instrument calibrators (sold separately) and compare the results with those obtained previously to confirm if the issue can be narrowed down to the MVP ICON instrument.

Issue: Calibrator results vary widely from read to read.

Resolution: This can indicate an MVP ICON instrument malfunction. However, make sure this issue is not a result of static electricity accumulated on the luminescent calibrator. Touch the luminescent calibrator to a metal object then slowly reinsert it into the reading chamber and give any remaining static time to dissipate before initiating a reading, approximately 2 minutes.

MVP ICON Sampling Devices

Issue: There is moisture in the pouch when first opened.

Resolution: The moisture in the pouch is wetting agent from the sampling devices. It is intended to keep the sampling devices from dehydrating. It will not change the light output nor cause contamination of the sampling devices. Do make sure that the outside of the sampling device is wiped dry with a clean cloth before inserting it into the MVP ICON instrument to read.

MVP ICON pH/Temperature Probe

Issue: The MVP ICON pH/Temperature probe will not calibrate.

Resolution: Occasionally probes can get plugged or dirty from sample testing which can impact the probes accuracy. If this happens, clean the probe with liberal amounts of warm water and gently scrub with a soft bristled brush and soap. Rinse thoroughly, blot dry and recalibrate.

If the probe has not been used in a while, it may be plugged with residual sample or crystalized KCl. Submerge the probe in a beaker of warm water (~ 50 ˚C) until the water cools to room temperature - approximately 30 minutes. Then, soak the probe in saturated KCl solution for 15 to 30 minutes and recalibrate. Alternately, if buffers become contaminated the probe will not calibrate. In addition, ensure the pH 10.00 buffer is borate-based.

Issue: The pH takes a long time to stabilize during calibration.

Resolution: In general, it should only take about 25 seconds per calibration point. If the time to stabilize is much longer, ensure the probe is clean and has been presoaked in pH 7.00 or 4.00 buffer for a minimum of 10 minutes. It may also take longer for pH readings to stabilize in relatively clean water samples.

Issue: Can I use the MVP ICON pH/Temperature probe to test Tris buffers?

Resolution: Yes. The main issue encountered when testing Tris buffers with standard pH electrodes is that the Tris can react with a Silver/Silver Chloride (Ag/AgCl) reference liquid and cause the silver to precipitate out of the reference solution and plug the reference junction. Although the MVP ICON pH/Temperature Probe uses a traditional reference, it offers a few major advantages over glass electrodes when testing Tris:
1. The MVP ICON pH/Temperature Probe reads very quickly (approximately 10 seconds). There is little time for the sample to react with the reference. A recommended best practice is to insert the probe, take the reading and remove the probe quickly to minimize contact time.
2. The MVP ICON pH/Temperature Probe has a large surface area reference junction of porous PTFE (Teflon). This junction provides great sample contact and is very easy to clean.

MVP ICON Temperature Probe

Issue: The MVP ICON Temperature Probe will not calibrate.

Resolution: Probes get dirty which will influence the ability to be calibrated and/or make accurate readings. Avoid highly corrosive or abrasive materials, as well as, strong organic solvents.

Issue: The probe tip comes off.

Resolution: You must replace the probe. Contact BioControl Technical Support for information.

Issue: The MVP ICON display reads "Probe not connected."

Resolution: 1) Try reinserting the connector for better contact.
2) Verify "Conductivity" is the selected parameter
3) Inspect the probe body for signs of connection breakage. If the connectors are damaged, then a replacement is required.

Issue: The MVP ICON displays "Calibration failed."

Resolution: Refer to the grid above to establish the error number and corresponding corrective action. In addition, the calibration may fail when the sanitizer possesses insufficient conductivity for quantitation, over that of the background water. The conductivity feature of the MVP ICON may measure most, but not all, sanitizers in most backgrounds. The instrument will produce Error 12 if there is an insufficient difference.

Issue: The conductivity readings drift or are unstable.

Resolution: Stir the sample to equilibrate. If the readings continue to drift, re-calibrate the probe.

Issue: The conductivity readings are drastically different from what is expected.

Resolution: 1) Verify the correct keypad entry of the calibration solution and re-calibrate.
2) Clean the probe and re-calibrate if 1) does not resolve the problem.
3) Prepare a fresh concentration standard and re-calibrate.

Issue: Temperature readings are not as expected.

Resolution: 1) Stir the sample to achieve uniformity and re-measure.
2) Re-calibrate the temperature sensor with "Temperature" as the selected parameter, if necessary.

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