GOSSEN METRAWATT

Safety through Competence

INFUSION PUMP ANALYZER

SECULIFE IFPRO SERIES

USER MANUAL

Rev 02

WARNING - USERS
The SECULIFE IFPRO Series is for use by skilled technical personnel only.

WARNING - USE
The SECULIFE IFPRO Series is intended for testing only and should never be used in diagnostics, treatment or any other capacity where they would come in contact with a patient.

WARNING - CONNECTIONS
All connections to patients must be removed before connecting the DUT to the SECULIFE IFPRO Series. A serious hazard may occur if the patient is connected when testing with the unit. Do not connect any leads from the patient directly to the unit or DUT.

WARNING - LIQUIDS
Do not submerge or spill liquids on the SECULIFE IFPRO Series. Do not operate the SECULIFE IFPRO Series if internal components not intended for use with fluids may have been exposed to fluid, as the internal leakage may have caused corrosion and be a potential hazard.

WARNING - MODIFICATIONS
The SECULIFE IFPRO Series is intended for use within the published specifications. Any application beyond these specifications or any unauthorized user modifications may result in hazards or improper operation.

CAUTION - FLUID

Only Distilled or Deionized Water should be used in the chambers with the SECULIFE IFPRO Series. Do not use glucose, saline, or any other fluid; This will cause the fluid path to become contaminated. Flush with Distilled or Deionized water if fluid channels have been exposed to incompatible fluids – do not let the unit dry out as the dried contaminants can buildup, leading

CAUTION - SERVICE

The SECULIFE IFPRO Series is intended to be serviced only by authorized service personnel. Troubleshooting and service procedures should only be performed by qualified technical personnel.

CAUTION - ENVIRONMENT

Exposure to environmental conditions outside the specifications can adversely affect the performance of the SECULIFE IFPRO Series. Allow the SECULIFE IFPRO Series to acclimate to specified conditions for at least 30 minutes before attempting to operate it.

CAUTION - CLEANING

Do not immerse. The SECULIFE IFPRO Series should be cleaned by wiping gently with a damp, lint-free cloth. A mild detergent can be used if

CAUTION - INSPECTION

The SECULIFE IFPRO Series should be inspected before each use for wear and should be serviced if any parts are in question.

NOTICE – SYMBOLS

Symbol   Description

Caution
(Consult Manual for Further Information)

Per European Council Directive 2002/95/EC, do not dispose of this product as unsorted municipal waste.

NOTICE – ABBREVIATIONS

ANSI	**American National Standards Institute**
C	**Celsius**
°	**degree(s)**
DUT	**Device Under Test**
Euro	**European**
F	**Fahrenheit**
FS	**Full Scale**
hr	**hour(s)**
Hz	**hertz**
kg	**kilogram(s)**
L	**liter (s)**
μL	**microliter (s)**
mA	**milliampere(s)**
ml	**milliliter(s)**
mm	**millimeter(s)**
mmhg	**millimeters of mercury**
min	**minute(s)**
Lbs	**Pounds**
PSI	**Pounds per Square Inch Pressure**
RH	**Relative Humidity**
USA	**United States of America**
VAC	**Volts Alternating Current**

NOTICE – DISCLAIMER

GMC-I MESSTECHNIK GMBH, WILL NOT BE RESPONSIBLE FOR ANY INJURIES SUSTAINED DUE TO UNAUTHORIZED EQUIPMENT MODIFICATIONS OR APPLICATION OF EQUIPMENT OUTSIDE OF THE PUBLISHED INTENDED USE AND SPECIFICATIONS.

NOTICE – DISCLAIMER

GMC-I MESSTECHNIK GMBH RESERVES THE RIGHT TO MAKE CHANGES TO ITS PRODUCTS OR SPECIFICATIONS AT ANY TIME, WITHOUT NOTICE, IN ORDER TO IMPROVE THE DESIGN OR PERFORMANCE AND TO SUPPLY THE BEST POSSIBLE PRODUCT. THE INFORMATION IN THIS MANUAL HAS BEEN CAREFULLY CHECKED AND IS BELIEVED TO BE ACCURATE. HOWEVER, NO RESPONSIBILITY IS ASSUMED FOR INACCURACIES.

NOTICE – CONTACT INFORMATION

GMC-I MESSTECHNIK GMBH
Südwestpark 15
D-90449 Nürnberg
GERMANY

+49-911-8602-111
+49-911-8602-777

www.gossenmetrawatt.com
info@gossenmetrawatt.com

This Page Intentionally Left Blank

```
┌─────────────────────────────────────────────────────┐
│            GMC-I MESSTECHNIK GMBH                     │
│            SECULIFE IFPRO SERIES                      │
│            INFUSION PUMP ANALYZER                     │
└─────────────────────────────────────────────────────┘
```

The SECU**LIFE IFPRO** is the most compact full-featured four-channel analyzer on the market. It is a high-accuracy, easy-to-use system that incorporates touchscreen control of all processes without the use of old-fashioned buttons and knobs. This new, cutting-edge, patent pending design uses a dual syringe stepper motor-driven system that provides continuous monitoring of the fluid flow without the need to stop and perform intermittent drains as needed with older technologies. This provides a more realistic flow path for the Infusion Device under test and therefore more accurate readings. Independent stepper motor control of the custom ceramic valve allows the system to run smoothly and quietly. The precise control of the valve can also allow a powered, bidirectional fluid flow for use during the built-in cleaning cycle.

The SECU**LIFE IFPRO** has built-in AutoSequence capabilities that allows the user to perform automatic test procedures. This allows specific test routines specified by various manufacturers to be performed, providing significant time savings and reducing the risk of human error. All AutoSequence test results are stored internally in the large 32 GB memory. They can also be downloaded to a USB flash drive or directly to a PC.

There are specific requirements in IEC 60601-2-24 for, not only flow readings, but also back pressure simulation, bolus (PCA) measurements, and occlusion alarm monitoring. All of these features are specifically built into the SECULIFE IFPRO with simple-to-use, onscreen selections.

The SECU**LIFE IFPRO** is designed to hold up to four flow modules. These modules are individually serialized and calibrated so that they may be moved from channel to channel, and even unit to unit. Once installed, they are recognized by the SECU**LIFE IFPRO** and their Serial Number and NIST Traceable Calibration information are presented on the display and utilized in all data reporting.

The interchangeable modules provide the user with unprecedented flexibility in their IPA Testing System. There is no need to be down when the unit is due for calibration. Only the modules need to be calibrated. This also allows the rotating of modules or the use of a spare module, thus providing flexibility not available in other systems. The same is true for service. If there is a problem on one channel, only the module needs to be serviced, eliminating downtime.

The user has complete access to the four interchangeable flow modules. No wiring or plumbing is required for module installation. Simply lift the SECULIFE IFPRO display, remove the Access Panel, loosen the module's retainer screw, and slide the module out. All plumbing and electronics are self-contained, and all electrical connections are automatically mated. Simply reverse the process for module installation.

The SECU**LIFE** **IF**ᴘʀᴏ easily allows expansion in the field. You can buy a one-channel unit, and purchase additional modules to be installed in the field at any time. Just plug them in and upon startup the system will automatically recognize the additional module(s) and reconfigure itself accordingly.

SECU**LIFE** **IF**ᴘʀᴏ (BASIC FEATURES):

- SMALL IN SIZE, LARGE IN FEATURES
- FAST OPERATION
- EASY TO USE
- HIGH-ACCURACY
- LARGE 7" COLOR TOUCHSCREEN DISPLAY
- 1, 2, 3, AND 4 CHANNEL MODELS AVAILABLE (FIELD-UPGRADEABLE)
- INTERCHANGEABLE, FULLY SELF-CONTAINED FLOW MODULES
- CALIBRATION STORED IN THE FLOW MODULES – NO NEED TO BE DOWN FOR CALIBRATION OR SERVICE
- SMOOTH DUAL SYRINGE SYSTEM – ELIMINATES DRAIN CYCLE INCONSISTENCIES
- WHISPER-QUIET OPERATION
- AUTO START
- BUILT-IN DATA COLLECTION
- INDUSTRIAL GRADE SS PRESSURE SENSOR
- PERFORMS ALL IEC 60601-2-24 REQUIRED TESTS
- 10 ul to 1600 mL/Hr
- 4 USB PORTS, 4 AUX PORTS
- FLASH DRIVES, BARCODE SCANNERS, KEYBOARD AND MOUSE DIRECTLY SUPPORTED
- PC COMPATIBLE
- CONFIGUREABLE PRESSURE UNITS (mmHg, PSI, Bar, kPa)
- LARGE 32GB INTERNAL MEMORY

FUNCTIONS:

- PCA/BOLUS
- BACK PRESSURE SIMULATION
- OCCLUSION ALARM
- DATA DOWNLOAD TO PC OR FLASH DRIVE
- SELF-CLEANING CYCLE

AVAILABLE MODELS:

- SECU**LIFE IF**PRO –Base Unit   M696A

- SECU**LIFE IF**PRO –Flow Module   Z696V
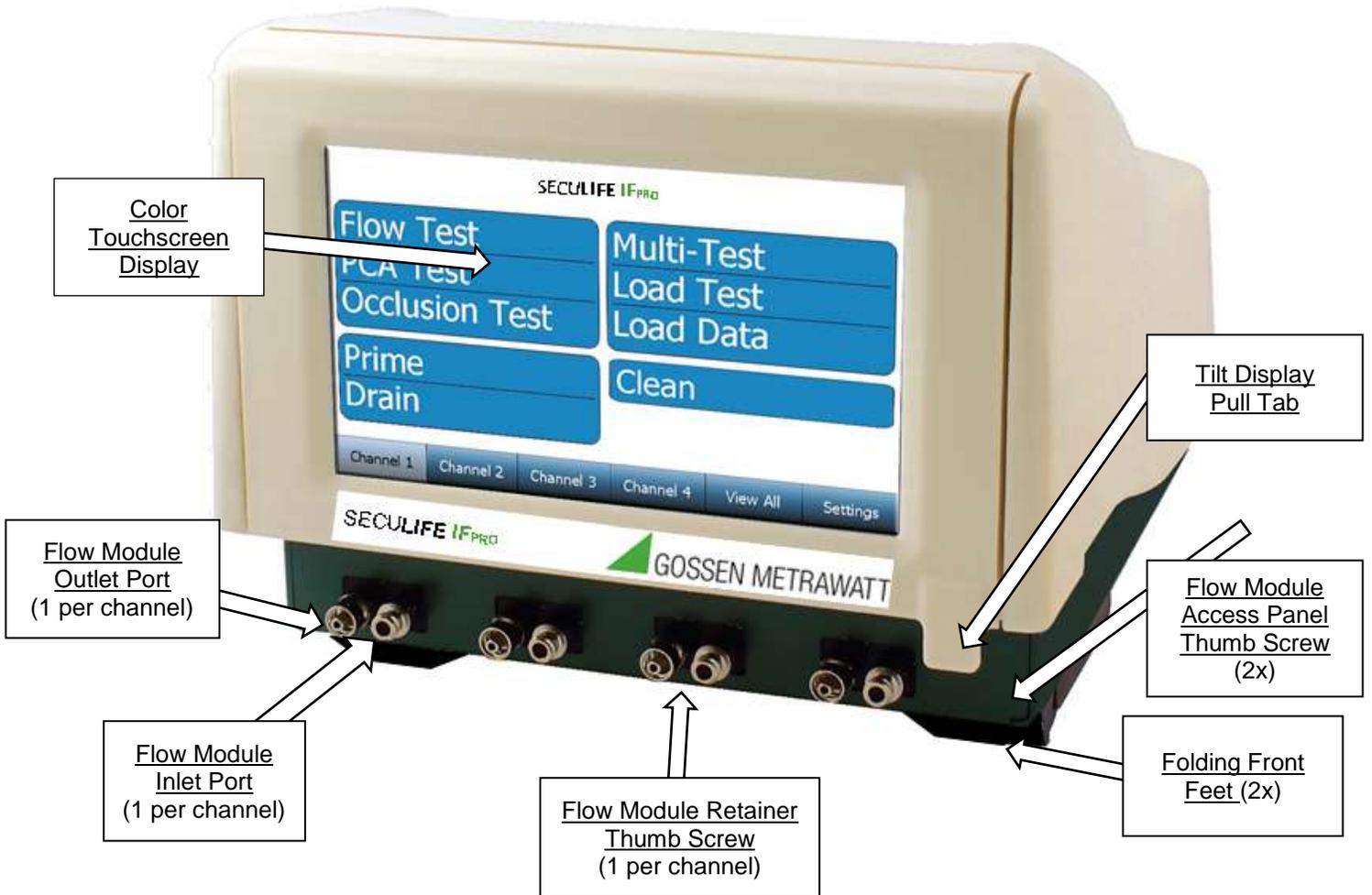

ACCESSORIES:

- 20-41360   CABLE, COMMUNICATIONS NULL MODEM
- 20-00161   SECULIFE IFPRO ACCESSORY KIT
- 20-20521   POWER CORD WITH INTERCHANGEABLE US, UK, AUS, AND EURO PLUGS

- LM-7319-CD   FLOW SOFTWARE CD

OVERVIEW

Below are details of the SECULIFE IFPRO Series layout and components:

FRONT VIEW

Color Touchscreen Display

Tilt Display Pull Tab

Flow Module Outlet Port (1 per channel)

Flow Module Access Panel Thumb Screw (2x)

Flow Module Inlet Port (1 per channel)

Flow Module Retainer Thumb Screw (1 per channel)

Folding Front Feet (2x)

BACK VIEW

Handle

On/Off Power Switch

Fuse

IEC Main Power Connector

Auxiliary Interface Connection (4x)

USB "A" Connection (4x)

Ethernet Connection

CONNECTIONS

The SECU**LIFE** **IF**PRO allows for a variety of connections to meet specific customer and test requirements. Not all connections are necessary for each application, but all are listed for completeness. The order in which the connections are made is not important, but it is suggested that all connections be made before switching the analyzer's power switch to the ON position.

Power

Plug the power cord into the standard IEC connector on the SECU**LIFE** **IF**PRO back panel. Select an included plug adapter that matches the required wall receptacle. Connect the adapter into the mating end of the power cord, and then into the wall receptacle.

Fluid connections

SECU**LIFE** **IF**PRO utilizes an independent, interchangeable flow module for each Channel. These are intelligent modules that contain all necessary Hardware and Software (including calibration data) to operate a single Channel of fluid analysis. The modules may be placed in any of the four available channel slots. The SECU**LIFE** **IF**PRO automatically identifies and communicates with up to four installed modules.

All modules and their connections are identical, therefore only a single module is detailed. The process may then be repeated for the additional modules installed, for additional infusion pumps under test. Each module has an inlet and an outlet Port. These utilize standard Luer connectors. The diagram below illustrates a typical connection.
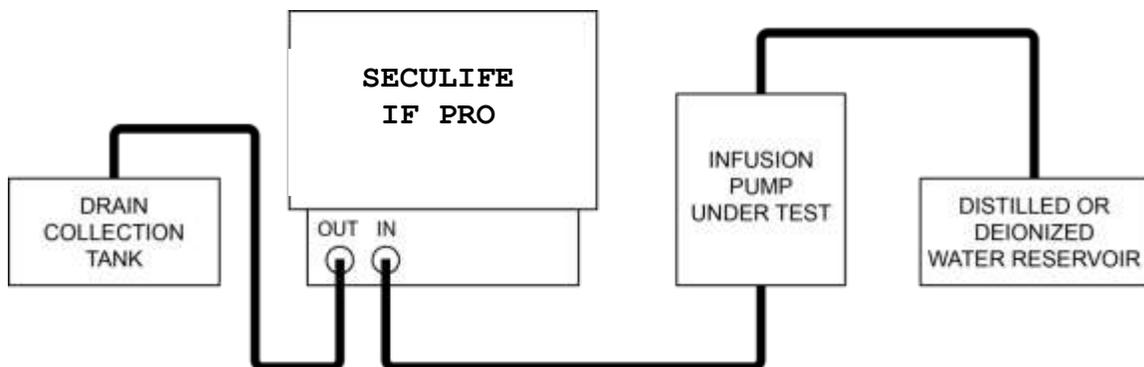
It should be noted that the advanced design in the SECU**LIFE** **IF**PRO is far less susceptible to the normal restrictions of older infusion pump testing technologies. In particular, the system is much more forgiving of tubing lengths and air bubbles. While the accuracy of the system can be affected by these issues, air bubbles will not impact

the operation of the system and it is not necessary for the system be level to operate correctly.

Priming the channels

Once the fluid connections have been made, the system should be primed. Use the onscreen Prime button for the Channel connected. The fluid source should be run until no air bubbles are seen in the outlet tube.

Accessory connections

Accessory connections are made to the appropriate connectors on the back panel.

USB - There are four USB "A" connectors on the back panel. Any of the connectors may be utilized for the connection of supported USB accessories (Keyboard, Mouse, Bar Code Reader, or Flash Drive).

Keyboard -   Any standard USB keyboard may be used. The keyboard is not necessary for normal operation, since there is a built-in keyboard in the touchscreen, but it may be used to operate the system if desired.

Mouse -   Any standard wired or wireless mouse may be used. The mouse is not necessary to operate the system since the touchscreen is available for all operations. However, the mouse may also be used to control all of the functions, if desired.

Bar Code Reader - Any standard Bar Code Reader may be used to scan in device information if desired.

Flash Drive -   Any standard USB flash drive may be used to both upload and download information. This may be used for test data files, setup files or system software upgrades.

Ethernet - A standard RJ-45 Ethernet connector is provided on the back panel. This may be used to connect the system to a network, allowing operation of the system over the network. This may also be used for the uploading and downloading of test data files, setup files, or system software upgrades. The system may also be connected to the internet.

RUNNING A TEST - General

Once the system is connected and primed you are ready to run a test.

There are three basic tests - **Flow, Occlusion,** and **PCA**.

Each type of test may be performed individually, or as part of an **AutoSequence.**

Individual test setups may be created independently, or created from a previously saved setup file.

AutoSequences are sets of consecutive tests with optional informational screens included. These are generated to follow specific sequences of tests that may follow OEM procedures or in-house custom procedures.

We will first review the individual test setup and operation.

General Navigation Keys

There are 6 keys across the bottom of the screen that allow for simple navigation to the desired function.
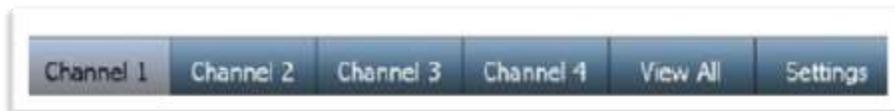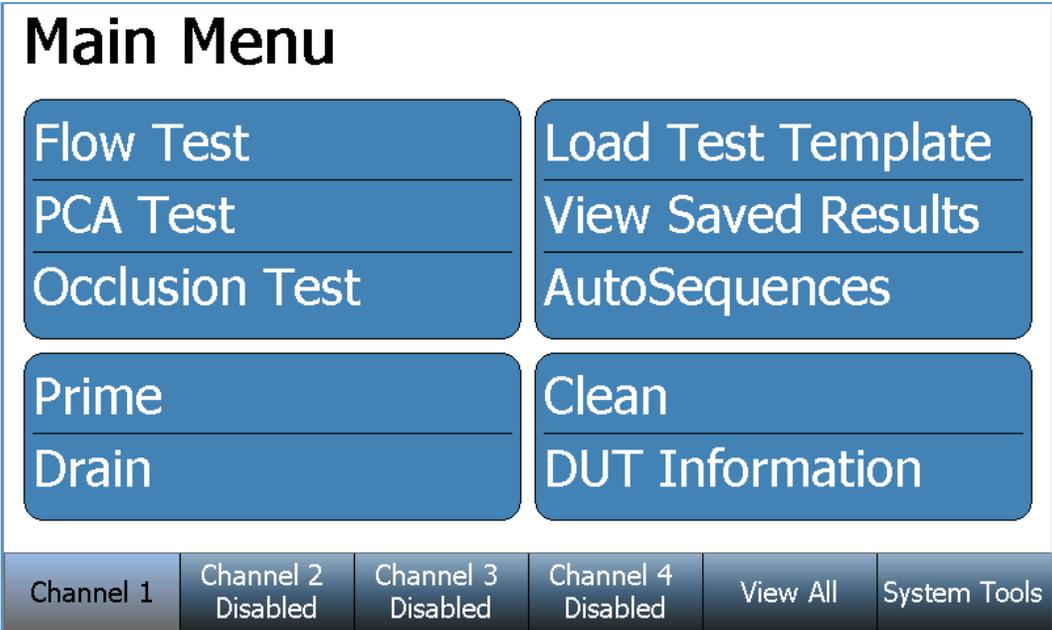

Channels 1 thru 4 - Pressing one of these keys displays the selected Channel functions, and includes specific information about the channel setup or test progress. It also provides access to the general file storage, which is common to all channels. These keys are only accessible when a module is installed in the corresponding Channel slot.

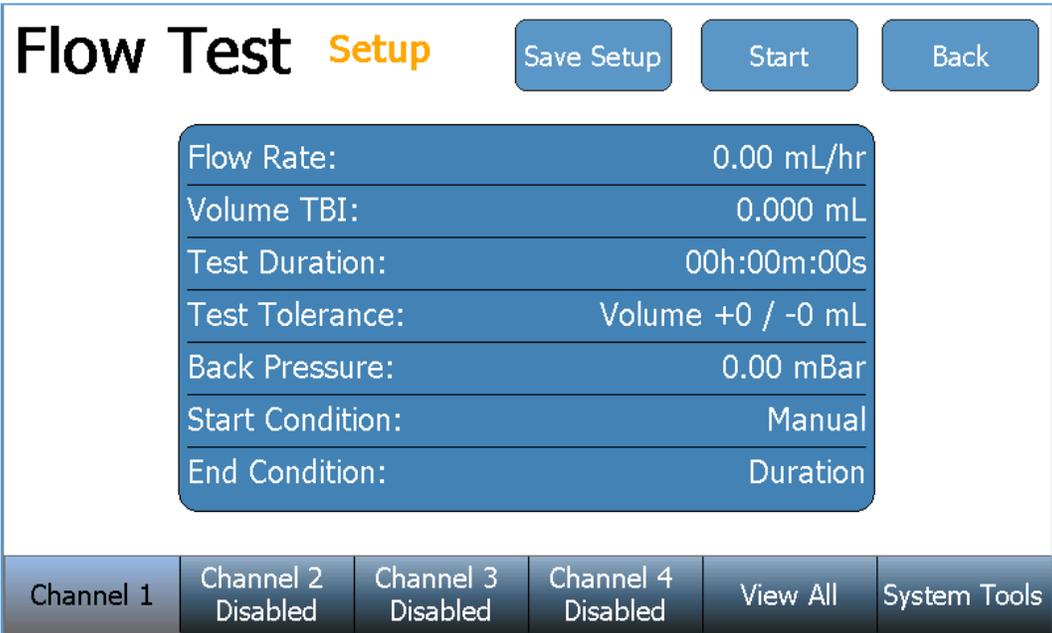View All - Pressing this key displays a single screen view containing the status of each installed Channel.

Settings - Pressing this key opens the Utility Options Screen, which provides access to the various utilities and system setup parameters.

Main Menu

Flow Test	Load Test Template
PCA Test	View Saved Results
Occlusion Test	AutoSequences
Prime	Clean
Drain	DUT Information

Channel 1	Channel 2 Disabled	Channel 3 Disabled	Channel 4 Disabled	View All	System Tools

Above is the Main Menu screen for a selected Channel. If needed, press the **Back** key on any successive screen to return to the Channel's Main Menu. All installed Channels have identical screen features and functions.

To setup a flow test, press the **Flow Test** key from the selected Channel's Main Menu. The following Flow Test setup screen will appear:

Flow Test Setup

Save Setup	Start	Back

Flow Rate:	0.00 mL/hr
Volume TBI:	0.000 mL
Test Duration:	00h:00m:00s
Test Tolerance:	Volume +0 / -0 mL
Back Pressure:	0.00 mBar
Start Condition:	Manual
End Condition:	Duration

| Channel 1	Channel 2 Disabled	Channel 3 Disabled	Channel 4 Disabled	View All	System Tools

The Flow Test setup screen includes the flow test setup and control parameters. To change a setting, simply press the parameter to display the available options, select an option, or enter the desired value. Use the **Save Setup** key to save to save the current selections for use with another Channel or another SECU**LIFE** **IFPRO**. See the "Loading a Test Template" section of this manual for details.

Parameter	Range	Units
Flow Rate	0 to 1600	mL/hr
Volume To Be Infused	0 to 9999	mL
Test Duration	119:59:59	H:M:S
Test Tolerance:	------	------
(Test Parameter)	Volume, Instantaneous Flow, Average Flow, None	------
(Test Tolerance - %)	0 - 100	%
(Test Tolerance - Value)	Volume (0 to 9999) Flow (0 to 1600)	mL mL/hr
Back Pressure	-3.867 to 11.602	PSI
Start Condition*	Automatic or Manual	------
End Condition	Duration, Volume, Duration or Volume, Duration and Volume	------

 * <u>Automatic start</u> indicates that a test will begin when the **Start** key is pressed and flow is detected.
 <u>Manual start</u> indicates that the test will start immediately when the **Start** key is pressed.

Once the desired conditions have been set, press the **Start** key to initiate the Flow Test. The screen will change to the following:
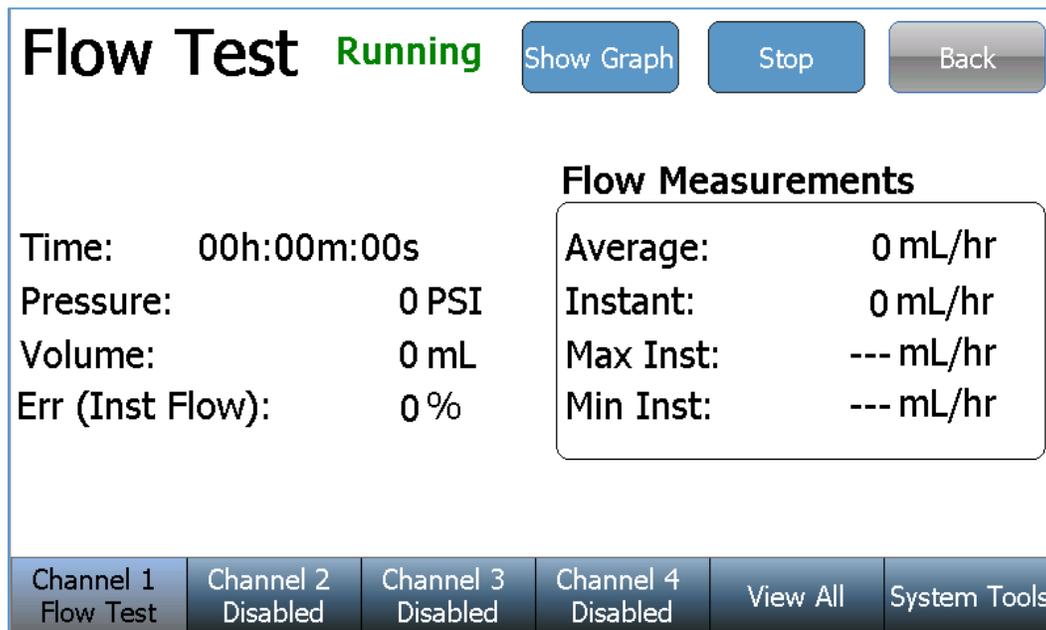
The **Show Graph** key may be used at any time during or after the test to change the screen to the Graph mode as shown below:
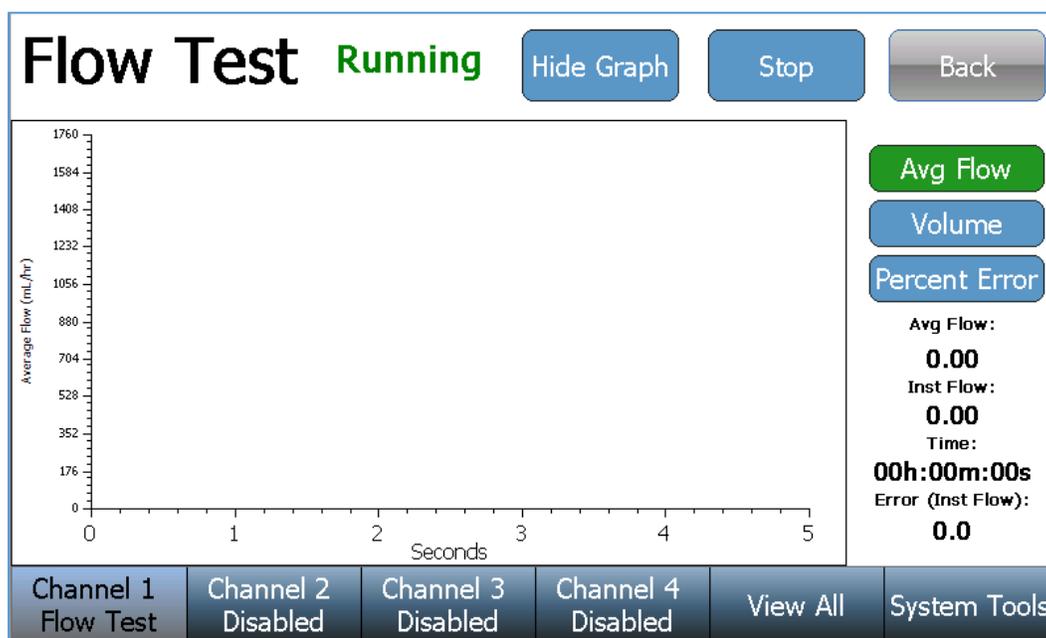
In the Graph mode, several different views of the data may be displayed. Use the keys on the right to select the desired display. Use the **Hide Graph** key to return to the previous display.

The test will continue until completion, unless manually stopped. Upon test completion, the test status will change from **Running** to **Complete** and the pass/fail test result will be displayed:

If the test has failed, a brief description of the failure is included:

If the test is manually stopped, the test result will change from **Running** to **Stopped** and the test result will indicate an incomplete test:

Once a test has completed (or stopped) a **Re-run Test** key and a **Save Results** key will appear near the bottom of the screen. The test may be repeated using the **Re-run Test** key or the test results may be saved using the **Save Results** key:

Main Menu

Flow Test	Load Test Template
PCA Test	View Saved Results
Occlusion Test	AutoSequences
Prime	Clean
Drain	DUT Information

Channel 1	Channel 2 Disabled	Channel 3 Disabled	Channel 4 Disabled	View All	System Tools

Above is the Main Menu screen for a selected Channel. If needed, press the **Back** key on any successive screen to return to the Channel's Main Menu. All installed Channels have identical screen features and functions.

To setup a PCA Test, Press the **PCA Test** key from the selected Channel's Main Menu. The following PCA Test setup screen will appear:

PCA Test

Save Setup   Start   Back

Bolus Test Limit Parameter:	Flow: 225 mL/hr
Test Limit Tolerance:	+/-0 mL/hr
Basal Flow Rate:	50 mL/hr
Bolus Interval Time:	0 min
Loading Dose:	0 mL
Back Pressure:	0.200 PSI
Test Duration:	00:00:05

Channel 1	Channel 2	Channel 3 Disabled	Channel 4 Disabled	View All	Settings

13

The PCA Test setup screen includes the PCA test setup and control parameters. To change a setting, simply press the parameter to display the available options, select an option, or enter the desired value. Use the **Save Setup** key to save to save the current selections for use with another Channel or another SECU**LIFE IFPRO**. See the "Loading a Test Template" section of this manual for details.
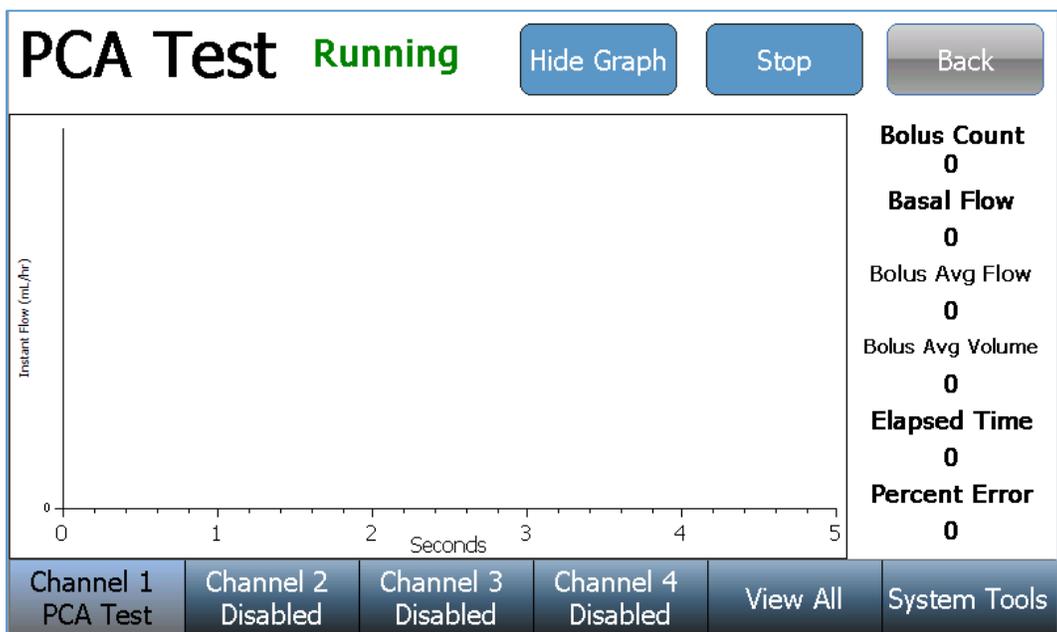
Parameter	Range	Units
Basal Flow Rate	0 to 1600	mL/hr
Test Duration	119:59:59	H:M:S
Bolus Test Config:	------	------
(Test Parameter):	Volume, Flow, None	------
(Expected Value)	Volume (0 to 9999) Flow (0 to 1600)	mL mL/hr
(Test Tolerance - %)	Upper (0 to 100) Lower (0 to 100)	%
(Test Tolerance - Value)	Upper (0 to 1600) Lower (0 to 1600)	mL/hr
Lockout Time	0 to 999	minutes
Loading Dose	0 to 9999	mL
Back Pressure	-3.867 to 11.602	PSI
Start Condition*	Automatic or Manual	------

 * <u>Automatic start</u> indicates that a test will begin when the **Start** key is pressed and flow is detected.
 <u>Manual start</u> indicates that the test will start immediately when the **Start** key is pressed.

Once the desired conditions have been set, press the **Start** key to initiate the PCA Test. The screen will change to the following:

The **Show Graph** key may be used at any time during or after the test to change the screen to the Graph mode as shown below:

Use the **Hide Graph** key to return to the previous display.

The test will continue until completion, unless manually stopped. Upon test completion, the test status will change from **Running** to **Complete** and the pass/fail test result will be displayed:

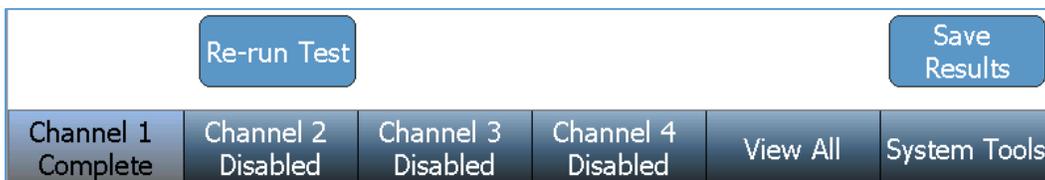If the test has failed, a brief description of the failure is included:

If the test is manually stopped, the test result will change from **Running** to **Stopped** and the test result will indicate an incomplete test:
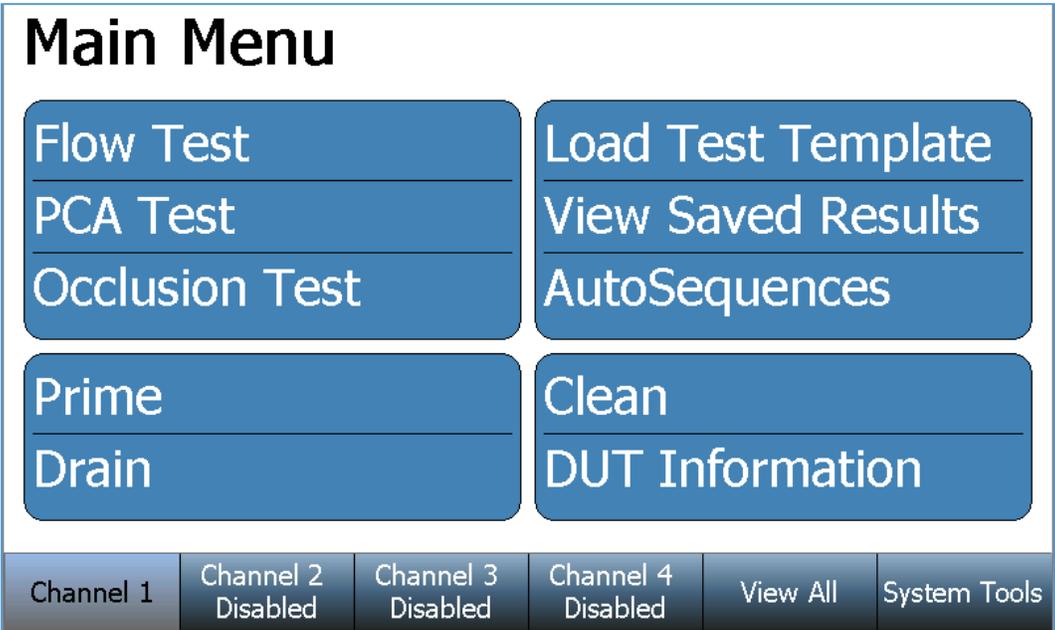

Once a test has completed (or stopped) a **Re-run Test** key and a **Save Results** key will appear near the bottom of the screen. The test may be repeated using the **Re-run Test** key or the test results may be saved using the **Save Results** key:

Main Menu

Flow Test	Load Test Template
PCA Test	View Saved Results
Occlusion Test	AutoSequences
Prime	Clean
Drain	DUT Information

Channel 1	Channel 2 Disabled	Channel 3 Disabled	Channel 4 Disabled	View All	System Tools

Above is the Main Menu screen for a selected Channel. If needed, press the **Back** key on any successive screen to return to the Channel's Main Menu. All installed Channels have identical screen features and functions.

To setup an Occlusion Test, Press the **Occlusion Test** key from the selected Channel's Main Menu. The following Occlusion Test setup screen will appear:

Occl. Test *Setup*

Save Setup	Start	Back

Pump Type	Manual
Test Parameter:	Pressure
Upper Limit:	0.000 PSI
Lower Limit:	0.000 PSI

| Channel 1	Channel 2 Disabled	Channel 3 Disabled	Channel 4 Disabled	View All	System Tools

The Occlusion Test setup screen includes the occlusion test setup and control parameters. To change a setting, simply press the parameter to display the available options, select an option, or enter the desired value. Use the **Save Setup** key to save to save the current selections for use with another Channel or another SECU**LIFE IFPRO**. See the "Loading a Test Template" section of this manual for details.

Parameter	Range	Units
Pump Type	Manual	------
Test Limits:	------	------
(Test Parameter)	Pressure, None	------
(Upper Limit)	0 to 50	PSI
(Lower Limit)	0 to 50	PSI

* Automatic start indicates that a test will begin when the **Start** key is pressed and flow is detected.
Manual start indicates that the test will start immediately when the **Start** key is pressed.
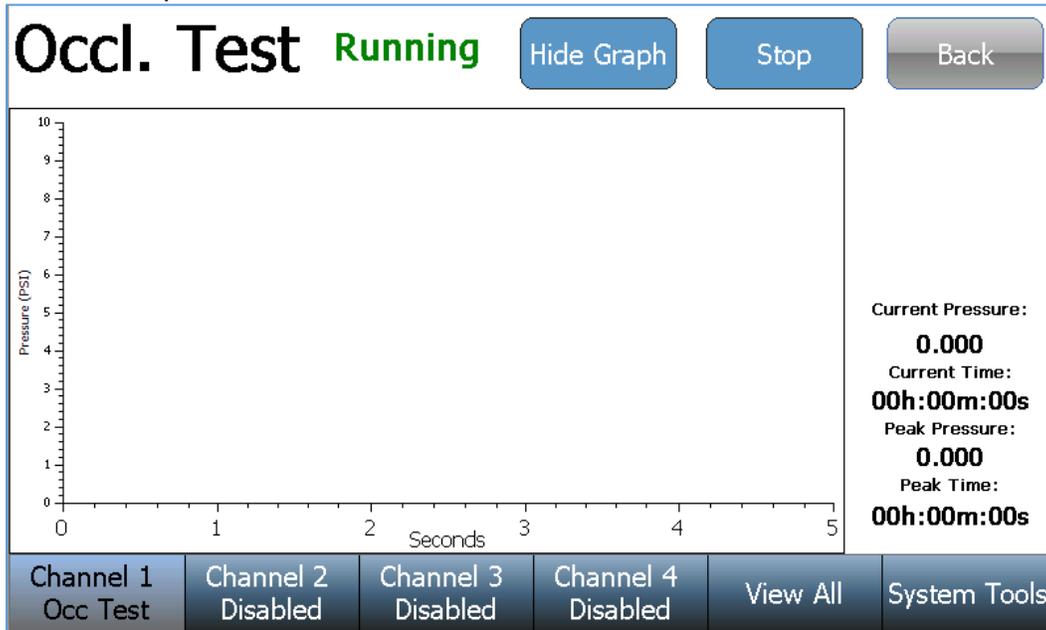
Once the desired conditions have been set, press the **Start** key to initiate the Occlusion Test. The screen will change to the following:
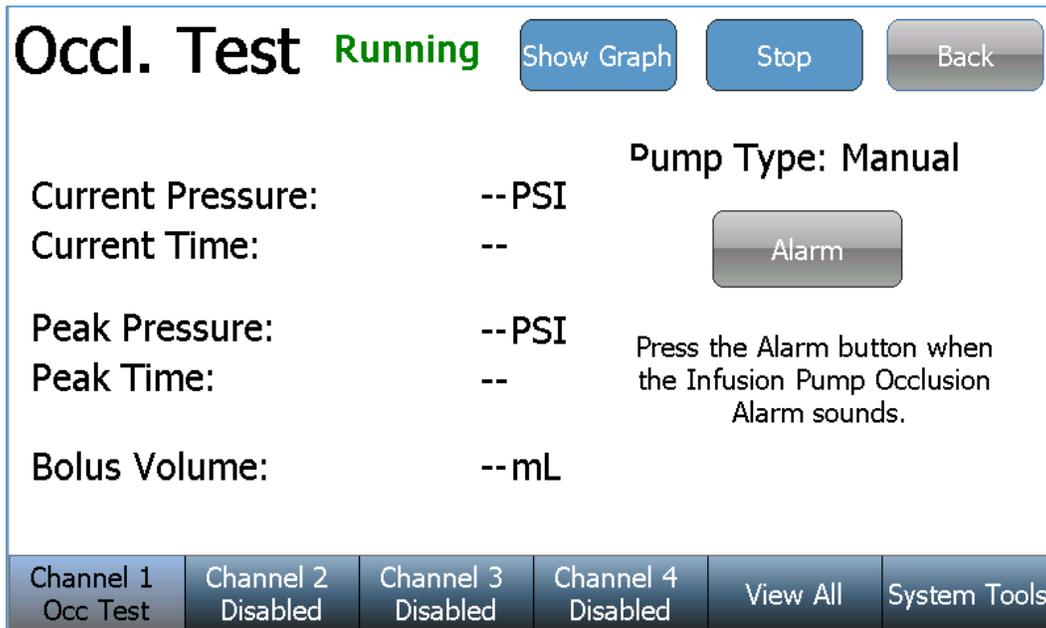
Begin an infusion with the connected pump. Once the SECU**LIFE** **IFPRO** senses pressure from the infusion pump, the SECU**LIFE** **IFPRO** **Alarm** key will enable (change to a red color, as shown below). To complete the occlusion test, press the SECU**LIFE** **IFPRO** **Alarm** key immediately after the infusion pump occlusion alarm occurs.
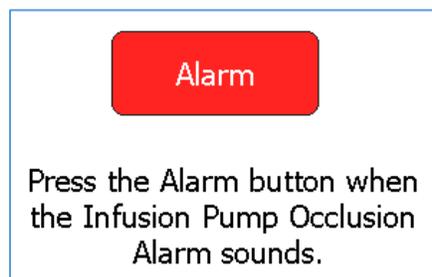
The **Show Graph** key may be used at any time during or after the test to change the Screen to the Graph mode as shown below:

Occl. Test **Running**   [Hide Graph]   [Stop]   [Back]

Pressure (PSI)

10
9
8
7
6
5
4
3
2
1
0

Current Pressure:
0.000
Current Time:
00h:00m:00s
Peak Pressure:
0.000
Peak Time:
00h:00m:00s

0   1   2   3   4   5
Seconds

| Channel 1 Occ Test | Channel 2 Disabled | Channel 3 Disabled | Channel 4 Disabled | View All | System Tools |

Use the **Hide Graph** key to return to the previous display.

Upon test completion, the test status will change from **Running** to **Complete** and the pass/fail test result will be displayed:

Occl. Test **Complete** [Show Graph]   [Back]

Test Passed

If the test has failed, a brief description of the failure is included:

Occl. Test **Complete** [Show Graph]   [Back]

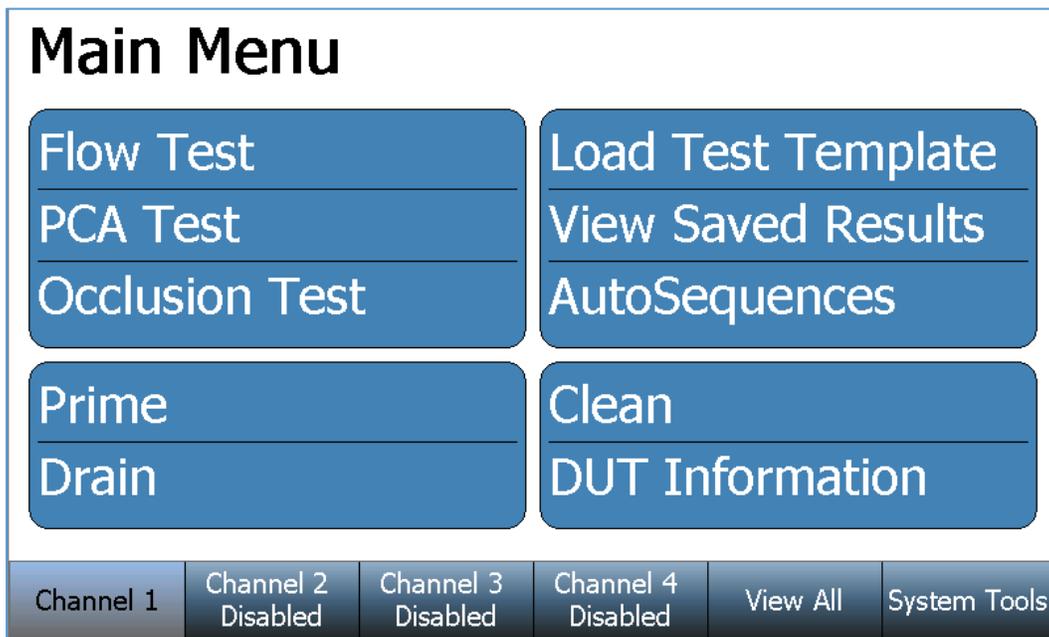Test Failed   Occlusion Pressure is above test limits (0-0.1) mL/hr

If the test is manually stopped, the test result will change from **Running** to **Stopped** and the test result will indicate an incomplete test:

Occl. Test **Stopped** [Show Graph]   [Back]

Test Incomplete

AUTOSEQUENCES

Creating an AutoSequence

An AutoSequence is a repeatable set of consecutive tests to be performed on a single device. The AutoSequence can consist of any number or combination of Instruction Steps, Flow Tests, PCA Tests, and Occlusion Tests. The AutoSequence may be created to incorporate all necessary steps of a device OEM's recommended maintenance procedure. The AutoSequence also allows the user to enter the device information, providing a complete maintenance record.

Main Menu

Flow Test	Load Test Template
PCA Test	View Saved Results
Occlusion Test	AutoSequences
Prime	Clean
Drain	DUT Information

| Channel 1 | Channel 2 Disabled | Channel 3 Disabled | Channel 4 Disabled | View All | System Tools |

Above is the Main Menu screen for a selected Channel. If needed, press the **Back** key on any successive screen to return to the Channel's Main Menu. All installed Channels have identical screen features and functions.

To create an AutoSequence Press the **AutoSequences** key and the following screen will appear:
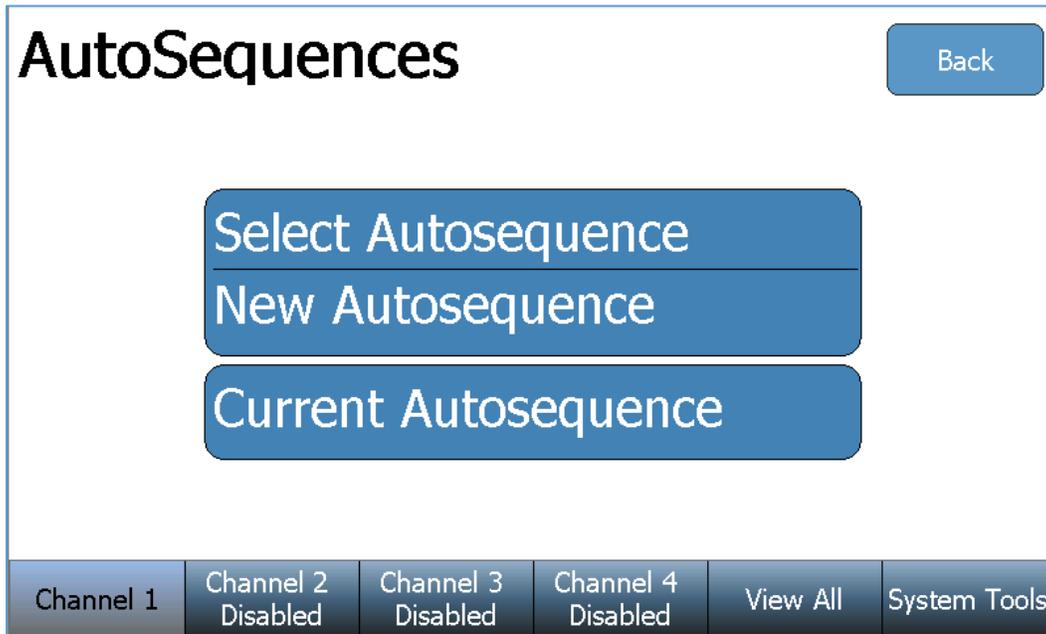
Press the **New AutoSequence** key to open a blank AutoSequence summary (as shown below). Press the **Add** key from this summary screen to create a step(s) of the AutoSequence.
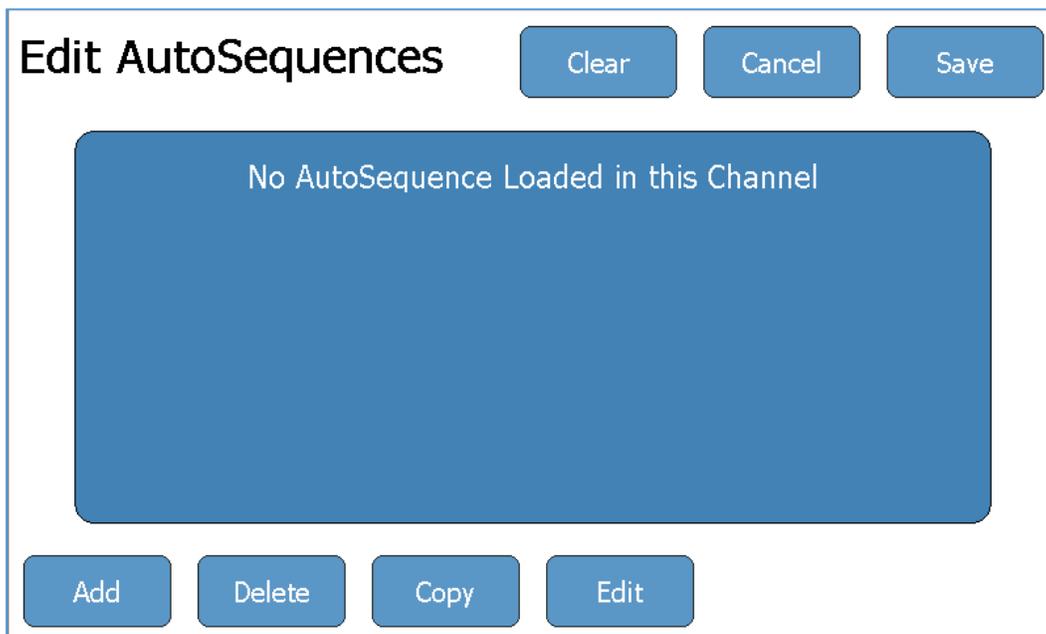
If the AutoSequence already contains a step, the SECU**LIFE** **IFPRO** will prompt the user to select the desired location of the new step.

Where would you like to add the step?

- ○ At Beginning of AutoSequence
- ○ Before the Current Step
- ◉ At End of AutoSequence
- ○ After the Current Step

[Cancel] [Ok]

Begin the step setup by selecting the Step Type (Instruction Step, Flow Test, PCA Test, or Occlusion Test). Examples of each step type are:

Instruction Step
The Step Title and Step Instructions may be updated using an attached USB keyboard. Simply select a text field on the screen and input the new information from the keyboard. Many OEM maintenance procedures require several physical inspections of the infusion pump components. Instruction Steps are a convenient way to include these inspections in the AutoSequence, as part of the complete maintenance record. After the Instruction Step information has been updated, select the **Done** key to return to the AutoSequence summary screen.

Step Type

Step Title Text

Step Instructions Text

Edit AutoSequences   [Clear] [Cancel] [Save]

Step Type

- ◉ Instruction Step
- ○ Flow Test
- ○ PCA Test
- ○ Occlusion Test

Instruction Step

Add Instructions to the user as needed.

[Cancel] [Done]

[Add] [Delete] [Copy] [Edit]

Flow Test

The Flow Test step parameters are identical to an individual Flow Test. See the "Running a Flow Test" section of this user manual for details. After the Flow Test Step parameters have been updated, select the **Done** key to return to the AutoSequence summary screen.

Test Parameters

Edit AutoSequences

Clear   Cancel   Save

Step Type

- ○ Instruction Step
- ● Flow Test
- ○ PCA Test
- ○ Occlusion Test

Flow Rate:	0.00 mL/hr
Volume TBI:	0.000 mL
Test Duration:	00h:00m:00s
Test Tolerance:	Avg. Flow +0 / -0 mL/hr
Back Pressure:	0.200 PSI
Start Condition:	Automatic
End Condition:	Duration

Cancel   Done

Add   Delete   Copy   Edit

PCA Test

The PCA Test step parameters are identical to an individual PCA Test. See the "Running a PCA Test" section of this user manual for details. After the PCA Test Step parameters have been updated, select the **Done** key to return to the AutoSequence summary screen.

Test Parameters

Edit AutoSequences

Clear   Cancel   Save

Step Type

- ○ Instruction Step
- ○ Flow Test
- ● PCA Test
- ○ Occlusion Test

Basal Flow Rate:	0 mL/hr
Test Duration:	00h:00m:00s
Bolus Test Config:	Flow: 0 mL/hr +5/-2 mL/hr
Lockout Time:	0 min
Loading Dose:	0 mL
Back Pressure:	0.200 PSI
Start Condition:	Automatic

Cancel   Done

Add   Delete   Copy   Edit

Occlusion Test

The Occlusion Test step parameters are identical to an individual Occlusion Test. See the "Running an Occlusion Test" section of this user manual for details. After the Occlusion Test Step parameters have been updated, select the **Done** key to return to the AutoSequence summary screen.

From the AutoSequence summary screen, the user may also use the **Delete**, **Copy**, **Edit**, and **Move Up** keys. These keys will respectively remove, copy, edit, or rearrange the highlighted AutoSequence step. Once the AutoSequence summary screen contains all required steps in the desired order, press the **Save** key.

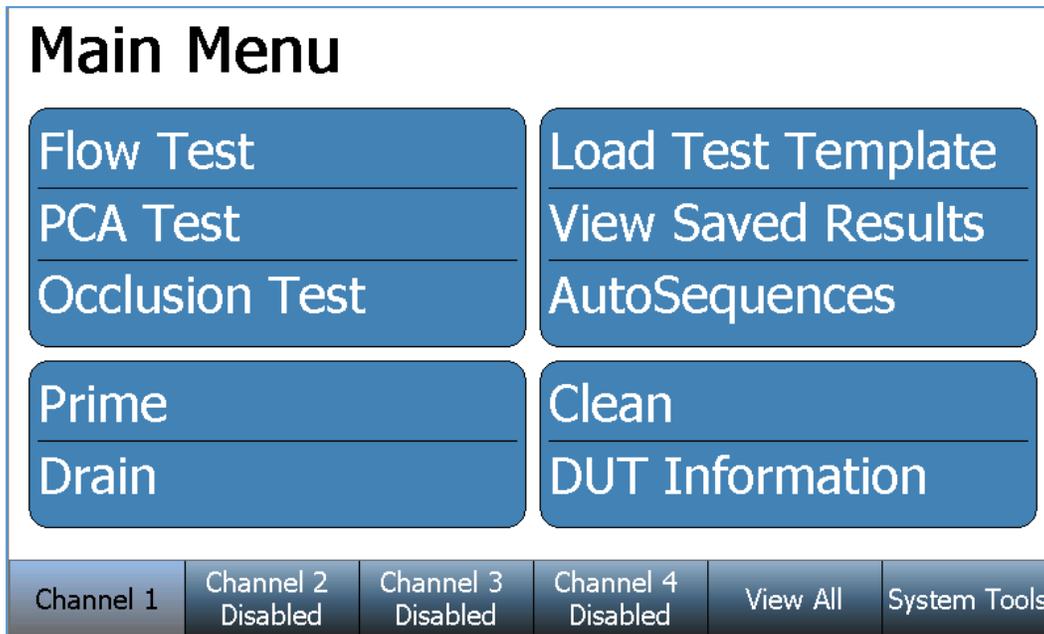Enter the new AutoSequence filename and press the **Enter** key.

Verify the correct filename and file storage location, then press the **Ok** key to save the AutoSequence.
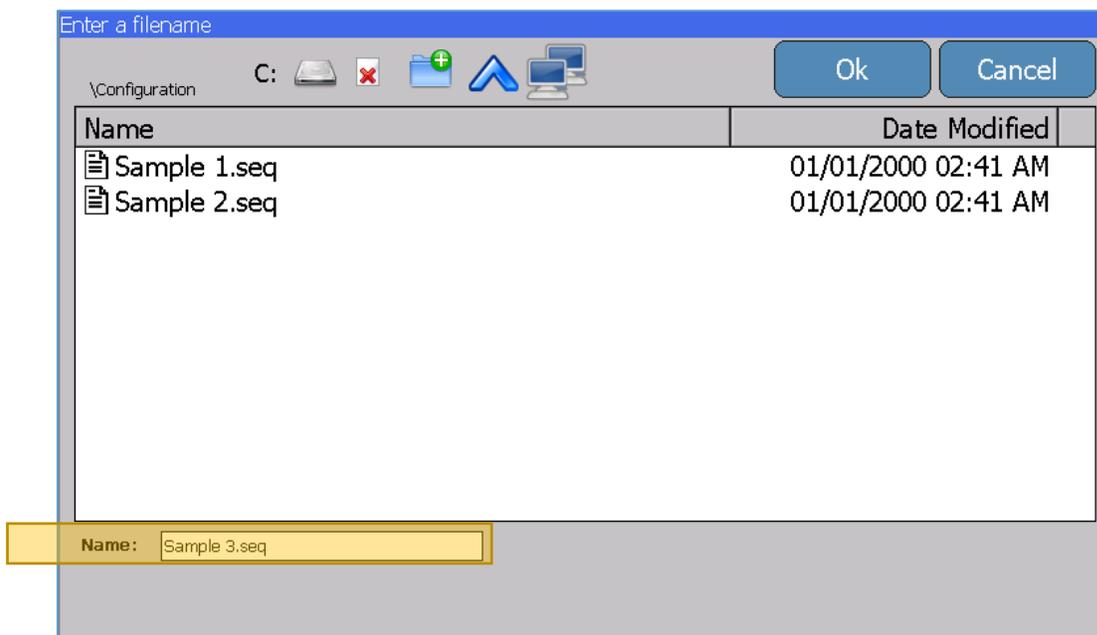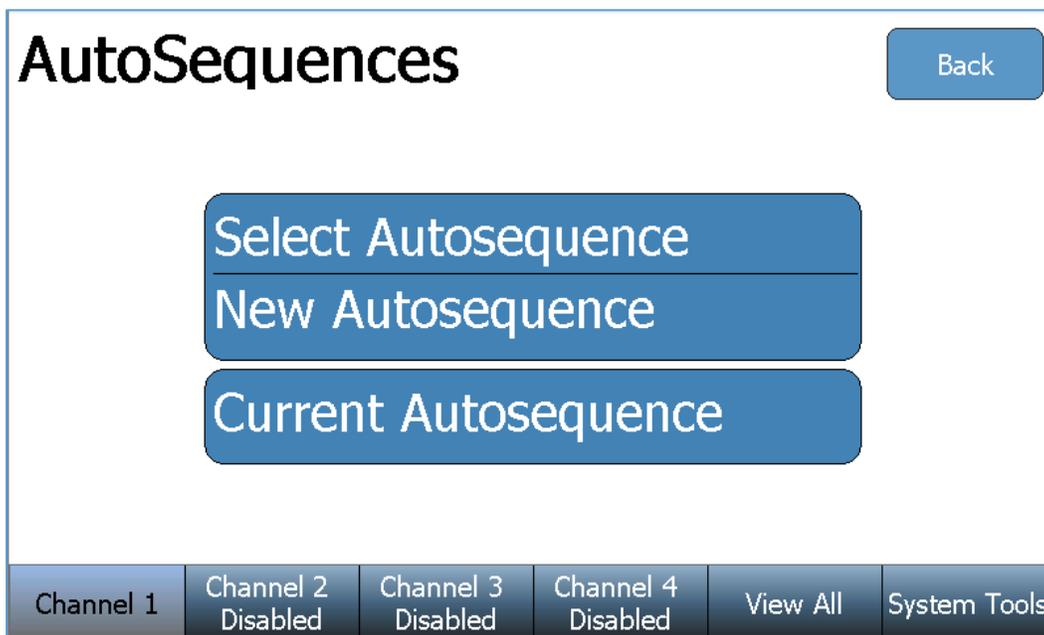

After pressing **Ok**, the SECU**LIFE IFPRO** will return to its previous screen.

Main Menu

Flow Test	Load Test Template
PCA Test	View Saved Results
Occlusion Test	AutoSequences
Prime	Clean
Drain	DUT Information

| Channel 1 | Channel 2 Disabled | Channel 3 Disabled | Channel 4 Disabled | View All | System Tools |

Above is the Main Menu screen for a selected Channel. If needed, press the **Back** key on any successive screen to return to the Channel's Main Menu. All installed Channels have identical screen features and functions.
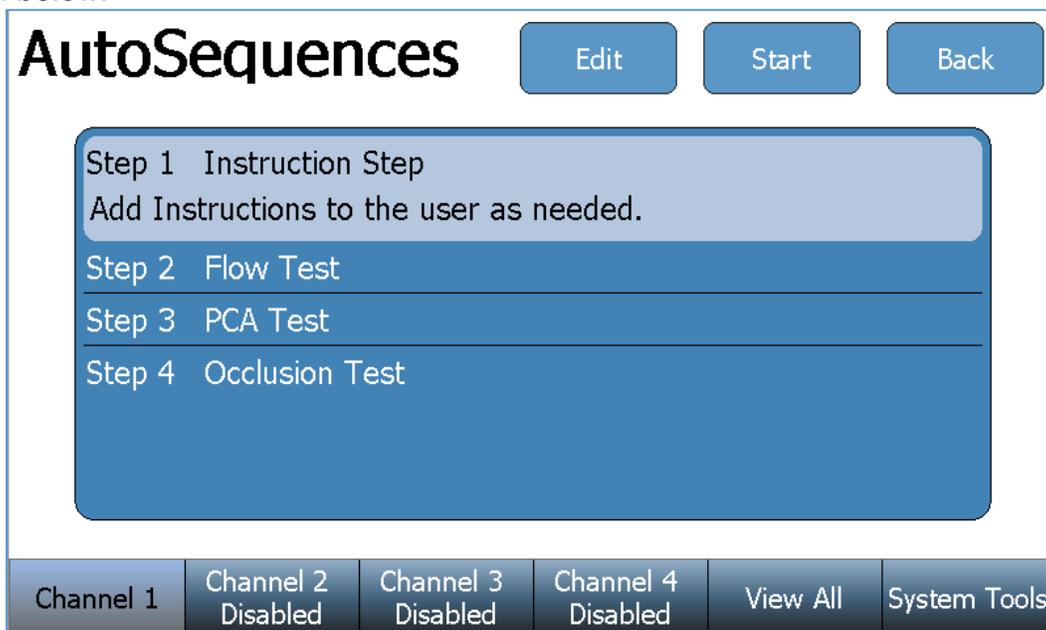
To run an AutoSequence Press the **AutoSequences** key and the following screen will appear:

AutoSequences   Back

Select Autosequence

New Autosequence

Current Autosequence

| Channel 1 | Channel 2 Disabled | Channel 3 Disabled | Channel 4 Disabled | View All | System Tools |

27

Press the **Select AutoSequence** key to use a previously created/saved AutoSequence file. The file browser window will appear and allow access to all saved AutoSequence files on the SECU**LIFE** **IF**PRO (C: drive), or any inserted USB flash drive (D:, E:, F:, G: drives).
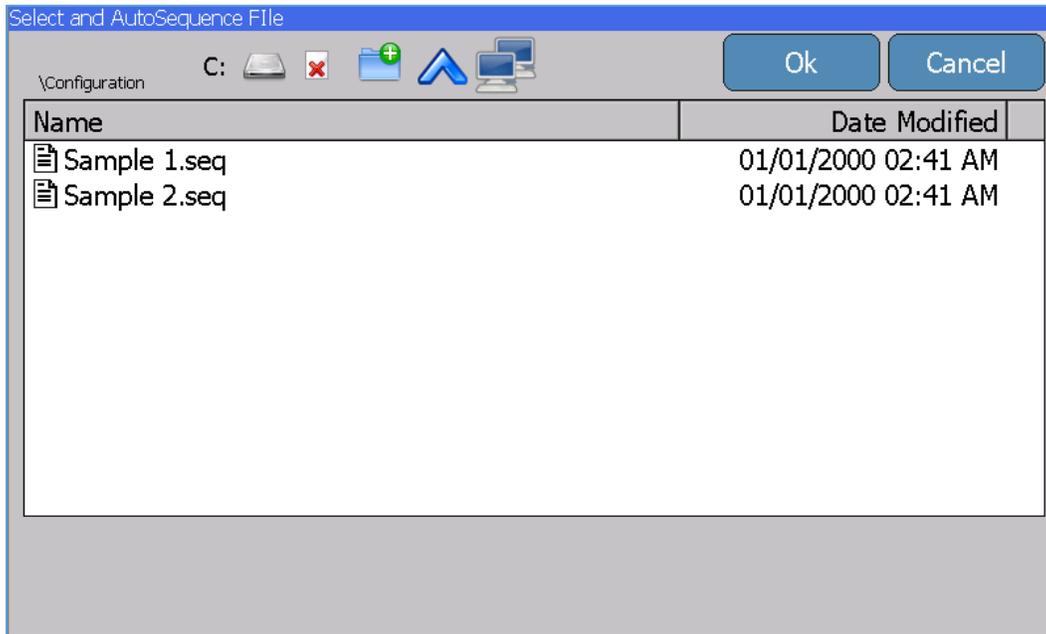
Once an AutoSequence file has been selected, the SECU**LIFE** **IF**PRO will load all test steps and parameters. The AutoSequence summary will be displayed, similarly to the screen below:

Each individual AutoSequence step may be selected and reviewed/edited using the **Edit** key. See the "Creating an AutoSequence" section of this manual for editing details.

Press the **Start** key to perform the AutoSequence testing. The SECU**LIFE** **IFPRO** will prompt the user for the infusion pump (DUT) information:

After the information has been entered, press the Next key to begin Step 1 of the AutoSequence. The AutoSequence may contain any number of four different test types (Instruction Step, Flow Test, PCA Test, and Occlusion Test). Each test type will require interaction with the user before the SECU**LIFE** **IFPRO** will proceed to a subsequent step. Examples of each test type and the required user interaction are below:

Instruction Step
The user must follow the written instructions, select the pass or fail condition, and press next to proceed to the next AutoSequence step.
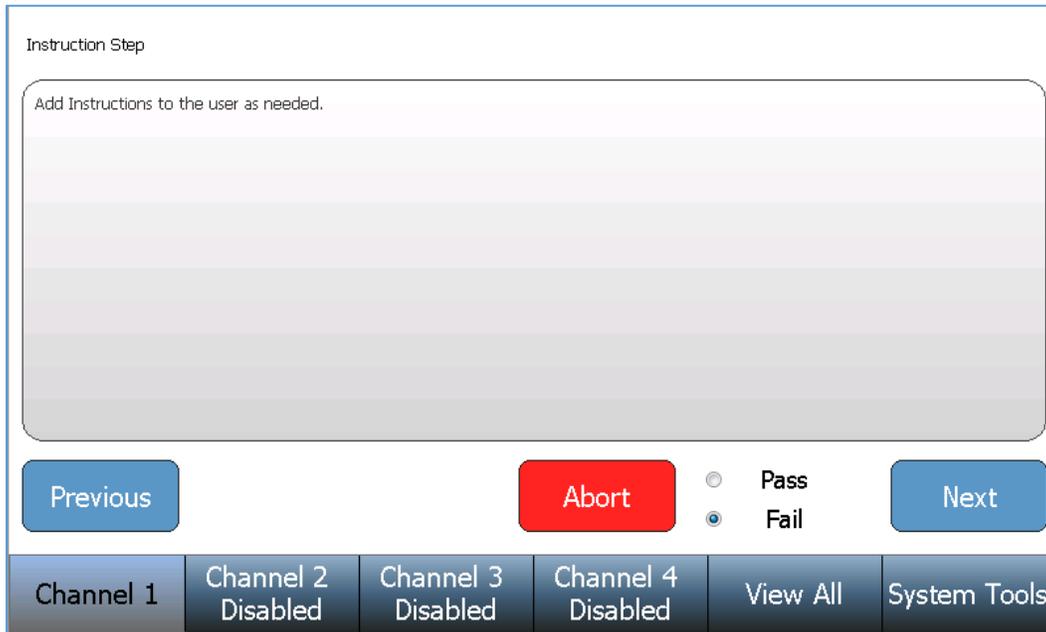
Flow Test, PCA Test, and Occlusion Test

Each of these steps are performed and completed the same as an individual Flow, PCA, or Occlusion test. See the "Running a Flow Test", "Running a PCA Test", and "Running an Occlusion Test" sections for test details. Once a step has completed a **Re-run Test** key, an **Abort** key, and a **Next** key will appear near the bottom of the screen. The test may be repeated using the **Re-run Test**. The AutoSequence may be aborted (losing all test data) using the **Abort** key. Proceed to the next AutoSequence step using the **Next** key.

After completion of the final step, an AutoSequence Results summary is provided with a pass/fail status of each step. The AutoSequence Results may be saved and/or printed using the **Save Results** key and **Print Results** key near the top of the screen. Pressing the **Next DUT** key allows the user to perform the same AutoSequence on another infusion pump, beginning the AutoSequence at the DUT Information screen.

AutoSequence Results	Save Results	Print Results	Next DUT	Back

Step 1	Instruction Step	Passed
Step 2	Flow Test	Failed

View All

A View All screen is provided that allows the user to simultaneously view the data of all four channels. The data displayed for each channel is a subset of the information that appears in the individual channel screens. Pressing the **View All** key changes the screen to the View All display:

Channel 1	Flow Test	Channel 2	Disabled
Time:	00h:00m:10s		
Volume:	1.925 mL		
Average Flow:	663.79 mL/hr		
Instant Flow:	823.68 mL/hr		

Channel 3	Disabled	Channel 4	Disabled

Channel 1 Flow Test	Channel 2 Disabled	Channel 3 Disabled	Channel 4 Disabled	View All	System Tools

All four channels will be displayed, regardless of the number of flow modules installed. If there is no flow module installed for a channel, the display will so indicate.

Saving and Viewing Test Results

Saving Test Results

Test results may be saved by pressing the **Save Results** key that appears on the screen at the completion of a test.

Save
Results

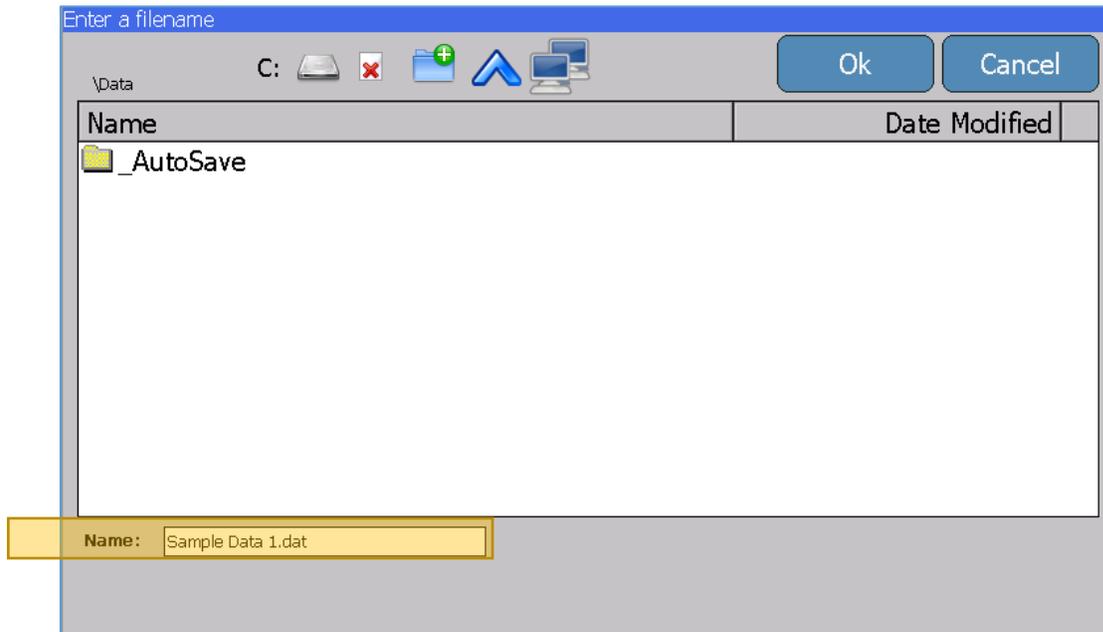Enter the test results filename and press the **Enter** key.

Enter a filename

Sample Data 1

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

q w e r t y u i o p

a s d f g h j k l

_ z x c v b n m <- ->
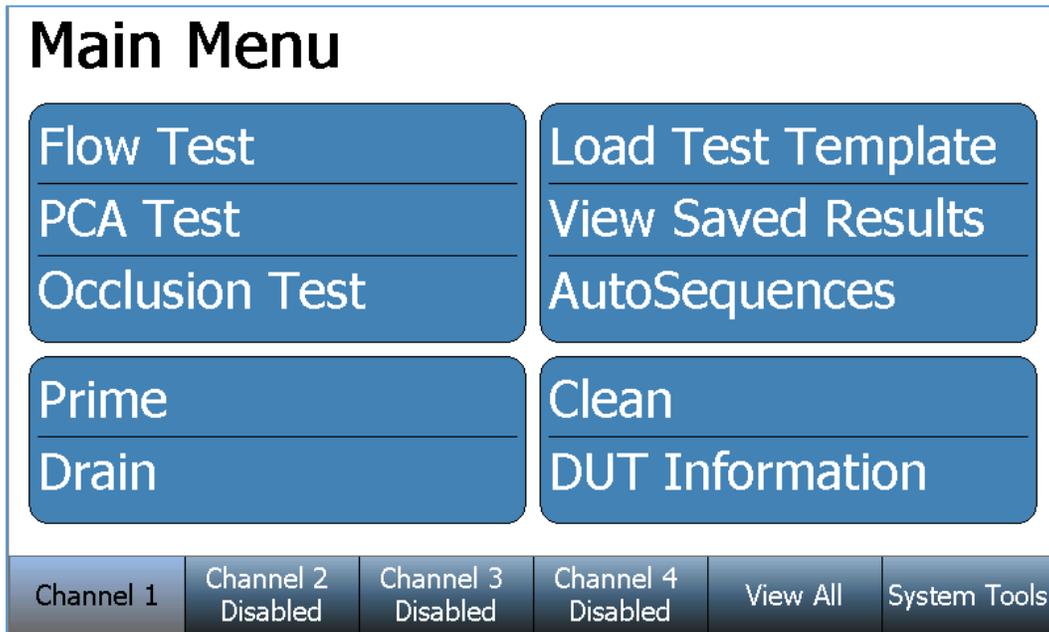
Shift Caps Space Delete BS

Cancel Clear Enter

Verify the correct filename and file storage location, then press the **Ok** key to save the test results.
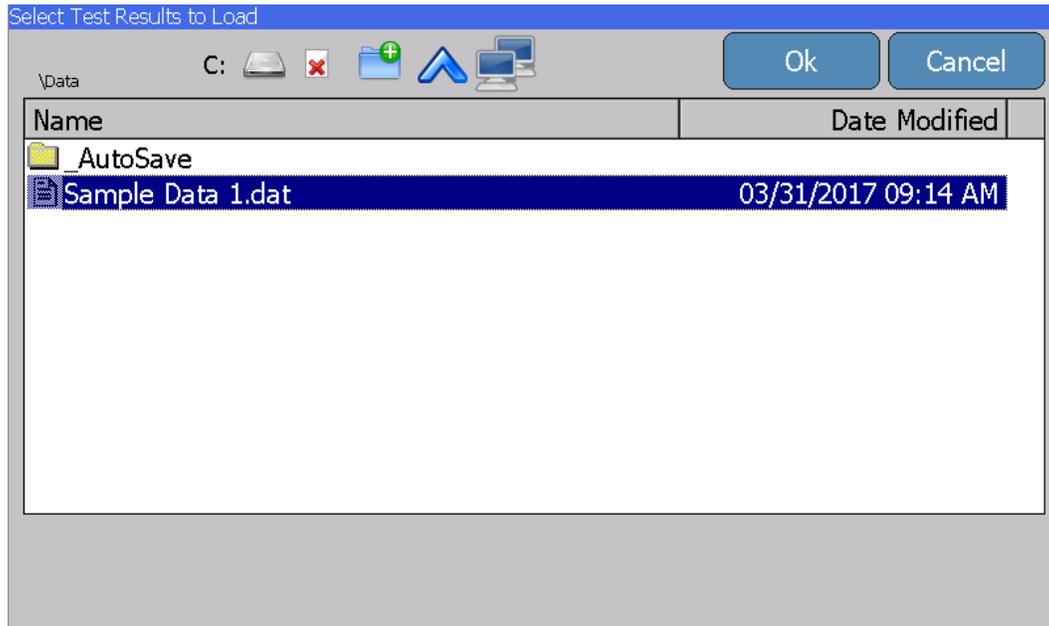

After pressing **Ok**, the SECU**LIFE IFPRO** will return to its previous screen.

Main Menu

Flow Test	Load Test Template
PCA Test	View Saved Results
Occlusion Test	AutoSequences
Prime	Clean
Drain	DUT Information

| Channel 1 | Channel 2 Disabled | Channel 3 Disabled | Channel 4 Disabled | View All | System Tools |

Above is the Main Menu screen for a selected Channel. If needed, press the **Back** key on any successive screen to return to the Channel's Main Menu. All installed Channels have identical screen features and functions.

Press the **View Saved Results** key from Main Menu screen to display the saved results files. The file browser window will appear and allow access to all saved test results files on the SECU**LIFE** **IFPRO** (C: drive), or any inserted USB flash drive (D:, E:, F:, G: drives).

Select Test Results to Load

C: Ok   Cancel

\Data

Name	Date Modified
_AutoSave	
Sample Data 1.dat	03/31/2017 09:14 AM

Select the desired file and press the **Ok** key. The display will repopulate all test data and return to the test results screen, allowing the user to view the data and graph.

Flow Test	Complete	Show Graph		Back

Test Passed

Flow Measurements

Time:	00h:00m:10s		Average:	0.00 mL/hr
Volume:	0.00 mL		Max Inst:	0.00 mL/hr
Err (Inst Flow):	NaN %		Min Inst:	0.00 mL/hr

Re-run Test

Save Results

Channel 1 Flow Test	Channel 2 Disabled	Channel 3 Disabled	Channel 4 Disabled	View All	System Tools

Saving and Loading Test Setups

Saving Test Templates

Individual test setups may be saved for later use, or as a template for similar individual tests. From the **Flow Test, PCA Test,** or **Occlusion Test** setup screen press the **Save Setup** key.

Save Setup

Enter the new test setup filename and press the **Enter** key.

Enter a filename

Test Setup 3

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

| q | w | e | r | t | y | u | i | o | p |

| a | s | d | f | g | h | j | k | l |

| _ | z | x | c | v | b | n | m | <- | -> |

| Shift | Caps | Space | Delete | BS |

| Cancel | Clear | Enter |

Verify the correct filename and file storage location, then press the **Ok** key to save the test setup.
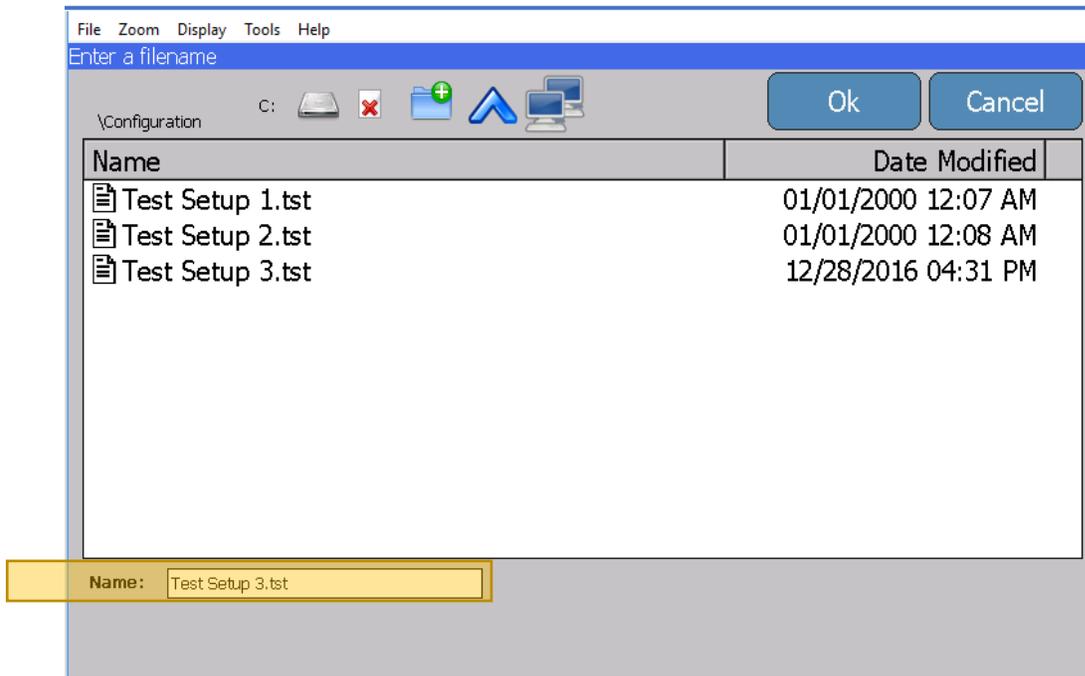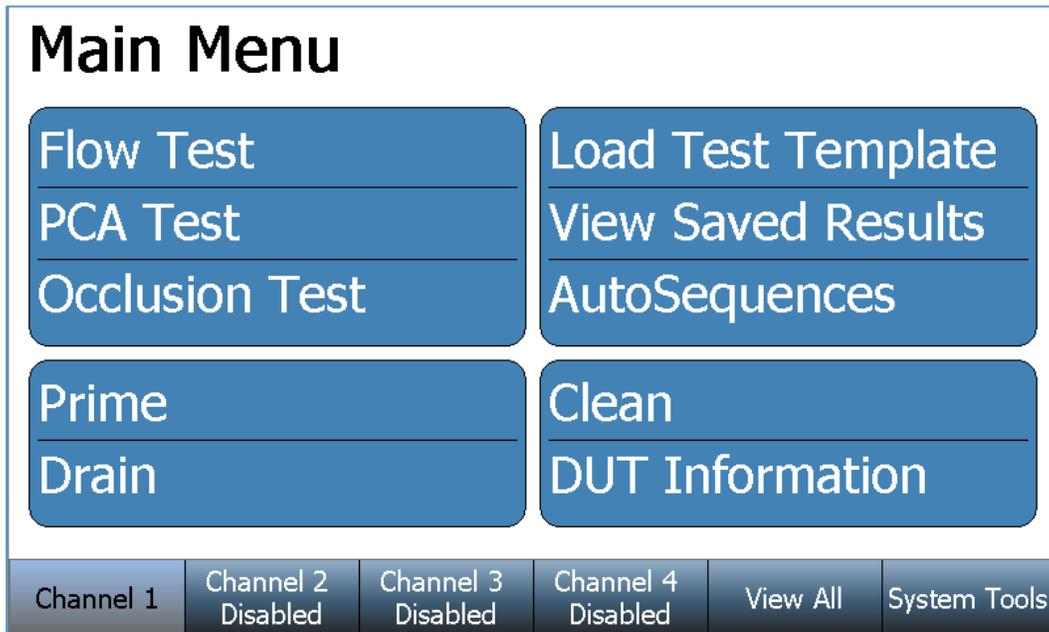
Main Menu

Flow Test	Load Test Template
PCA Test	View Saved Results
Occlusion Test	AutoSequences
Prime	Clean
Drain	DUT Information

Channel 1	Channel 2 Disabled	Channel 3 Disabled	Channel 4 Disabled	View All	System Tools

Above is the Main Menu screen for a selected Channel. If needed, press the **Back** key on any successive screen to return to the Channel's Main Menu. All installed Channels have identical screen features and functions.
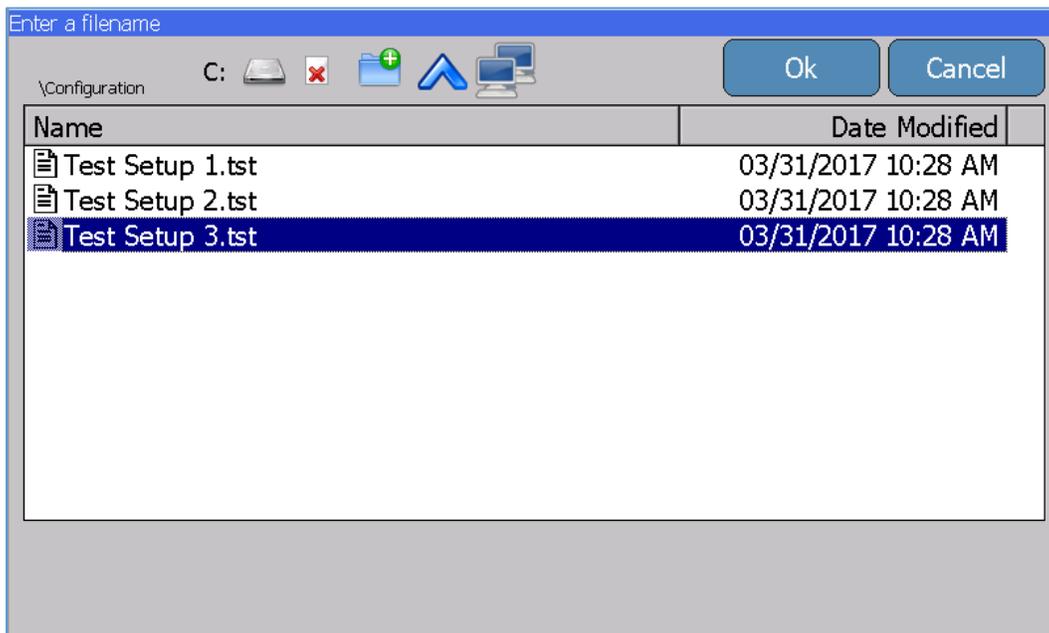
Press the **Load Test Template** key to use a previously created/saved test setup. The file browser window will appear and allow access to all saved test template files on the SECU**LIFE** **IF**PRO (C: drive), or any inserted USB flash drive (D:, E:, F:, G: drives).

Enter a filename

\Configuration   C: Ok   Cancel

Name	Date Modified
Test Setup 1.tst	03/31/2017 10:28 AM
Test Setup 2.tst	03/31/2017 10:28 AM
Test Setup 3.tst	03/31/2017 10:28 AM

Select the desired file and press the **Ok** key. The display will repopulate all test parameters and return to the test setup screen, allowing the user to edit the parameters and/or start the test.
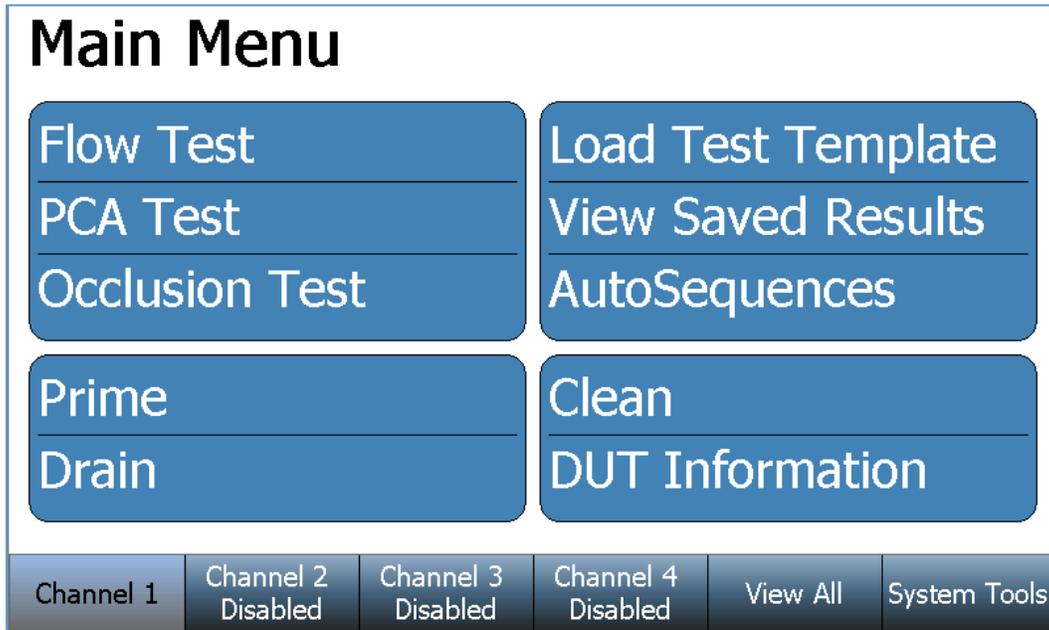
Flow Test	Setup	Save Setup	Start	Back

Flow Rate:	0.00 mL/hr
Volume TBI:	0.000 mL
Test Duration:	00h:00m:10s
Test Tolerance:	Instant Flow +0 / -0 mL/hr
Back Pressure:	0.000 PSI
Start Condition:	Manual
End Condition:	Duration

Test Setup 3

Channel 1	Channel 2 Disabled	Channel 3 Disabled	Channel 4 Disabled	View All	System Tools

Main Menu

Flow Test	Load Test Template
PCA Test	View Saved Results
Occlusion Test	AutoSequences

| Prime | Clean |
| Drain | DUT Information |

| Channel 1 | Channel 2 Disabled | Channel 3 Disabled | Channel 4 Disabled | View All | System Tools |

Above is the Main Menu screen for a selected Channel. If needed, press the **Back** key on any successive screen to return to the Channel's Main Menu. All installed Channels have identical screen features and functions.

From the selected Channel's Main Menu press the **Prime** key. The following instruction window will appear and the flow module will begin priming the connected tubing. Start the infusion pump to allow fluid to dispense through the flow module. Note: A higher infusion pump flow rate will expedite the priming process.

Press the **Done** key when no visible bubbles remain in the drain line tubing.

From the selected Channel's Main Menu press the **Drain** key. The following instruction window will appear and the flow module will begin draining.

Press the **Done** key when no fluid remains in the drain line tubing.

Flow module cleaning must be performed periodically to remove any possible contaminants or debris in the flow and measurement path. From the selected Channel's Main Menu press the **Clean** key. The following screen will appear:

Cleaning Cycle

| Start | Back |

Elapsed Time : 00h:00m:00s Remaining Time: 00h:01m:00s

Connect the SECULIFE IF PRO Cleaning solution container to the Inlet and Outlet ports of the channel.

When ready, press the Start button. The SECULIFE IF PRO will cycle the solution through the module

| Channel 1 | Channel 2 Disabled | Channel 3 Disabled | Channel 4 Disabled | View All | System Tools |

Follow the displayed instructions, then press the **Start** key.

The flow module will perform its cleaning cycle until the Remaining Time expires, or the user presses the **Stop** key.

Cleaning Cycle

| Stop | Back |

Elapsed Time: 00h:00m:01s Remaining Time: 00h:00m:59s

System Tools

The System Tools screen contains the SECU**LIFE** **IFPRO** general setup, information, and special functions for the system.

Press the **System Tools** key at the bottom of the screen:

Channel 1	Channel 2 Disabled	Channel 3 Disabled	Channel 4 Disabled	View All	System Tools

The following System Tools screen will appear:

System Setup
System Info
System Updates

Remote Mode
Transfer Files

Networking

Channel 1	Channel 2 Disabled	Channel 3 Disabled	Channel 4 Disabled	View All	System Tools
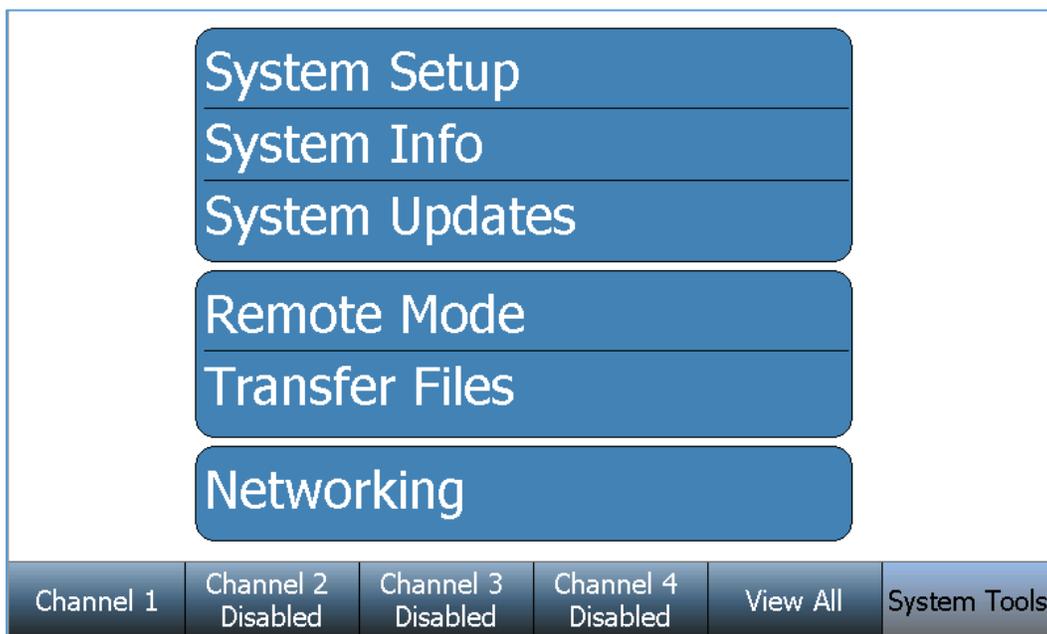
Press any of the available keys to open the screen for the labeled function.

Press the **System Setup** key to display the following screen:
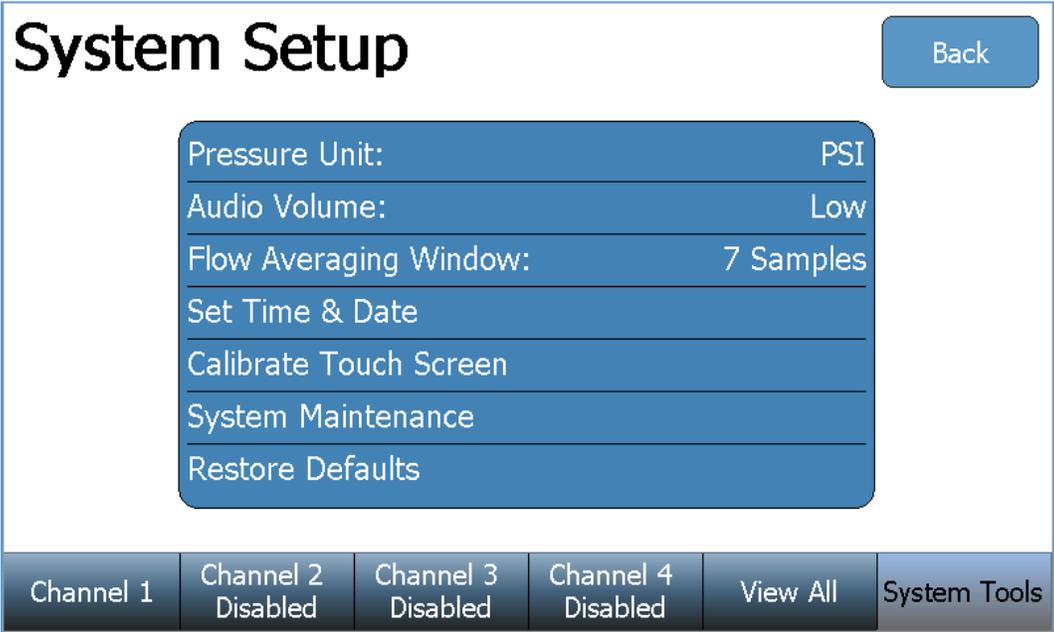
System Setup

	Back

Pressure Unit:	PSI
Audio Volume:	Low
Flow Averaging Window:	7 Samples
Set Time & Date	
Calibrate Touch Screen	
System Maintenance	
Restore Defaults	

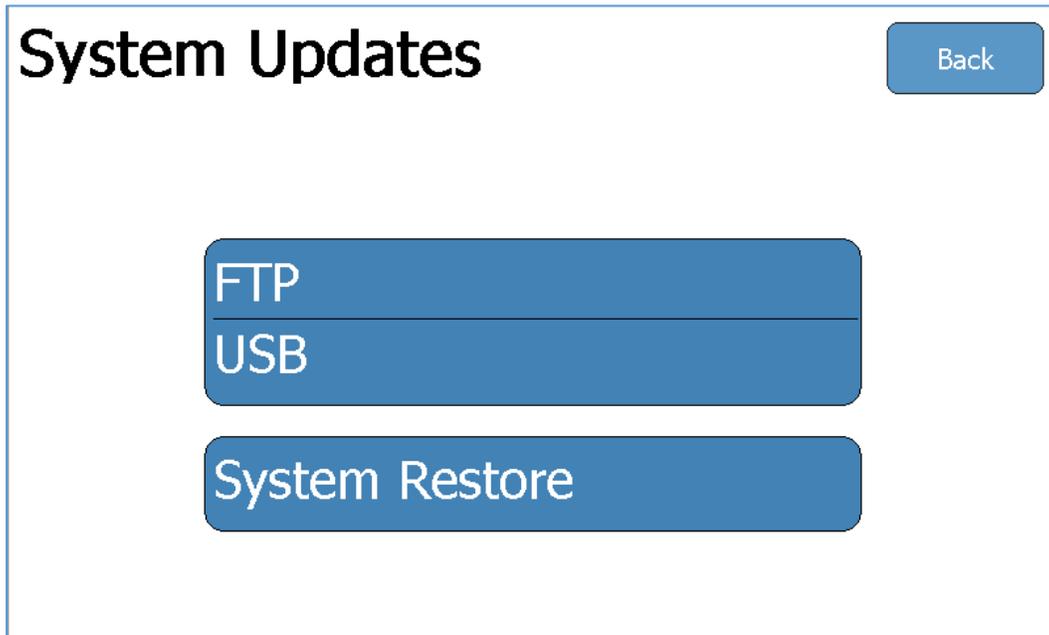| Channel 1	Channel 2 Disabled	Channel 3 Disabled	Channel 4 Disabled	View All	System Tools

To change a setting, simply press the parameter to display the available options, select an option, or enter the desired value.

Parameter	Choices
Pressure Units	mmHg, PSI, mBar or kPa
Audio Volume	High, Medium, Low, Silent
Flow Averaging Window	Samples averaged for the Instantaneous Flow display. (1-10 Samples)
Set Time & Date	Time (12/24), Day, Month, Year
Calibrate Touchscreen	This is a function to recalibrate the touchscreen. Follow the instructions on the screen.
System Maintenance	This is a restricted feature
Restore Defaults	Restores all system parameters to the default settings

Press the **System Info** key to display the following screen:

System Info

Back

Software Version: Hardware Version:
OS Version: Serial Number:
                        Backplane Firmware:

	Module 1	Module 2	Module 3	Module 4
Serial Number		N/A	N/A	N/A
Firmware		N/A	N/A	N/A
Hardware		N/A	N/A	N/A
Calibration Date		N/A	N/A	N/A
Calibration Due		N/A	N/A	N/A
Run Time		N/A	N/A	N/A
Clean Time		N/A	N/A	N/A

Channel 1	Channel 2 Disabled	Channel 3 Disabled	Channel 4 Disabled	View All	System Tools

The System Info screen displays the SECU**LIFE** **IFPRO** serial number, software versions, firmware version, and hardware version. The installed flow module information is also displayed, including the Serial Number(s), Firmware Version(s), Hardware Version(s), Calibration information, Run Time(s), and Clean Time(s).

Press the **System Updates** key to display the following screen:

This screen allows the user to update the SECU**LIFE IF**PRO and installed flow modules over the internet (FTP), or from a USB flash drive containing the update files. This screen also provides a function to restore to previous software versions using the **System Restore** key.

FTP

If the SECU**LIFE** **IFPRO** is connected to an internet-connected network press the **FTP** key to display the following screen:

The current System Versions will be displayed. If the Network, Internet, and File Server indicate "connected" (as shown above) the available FTP Versions will also be displayed. If a newer version is available it will be highlighted in a red color font. Press the **Update** key to begin the available updates.

USB

To update from a USB flash drive, press the USB key to display the following screen:

System Updates

Back

USB Update

To update your system using a USB drive, copy the .zip file containing the update files to the root folder of your USB drive. Insert the USB drive into the system and then cycle power. The update will proceed on startup.

Ok
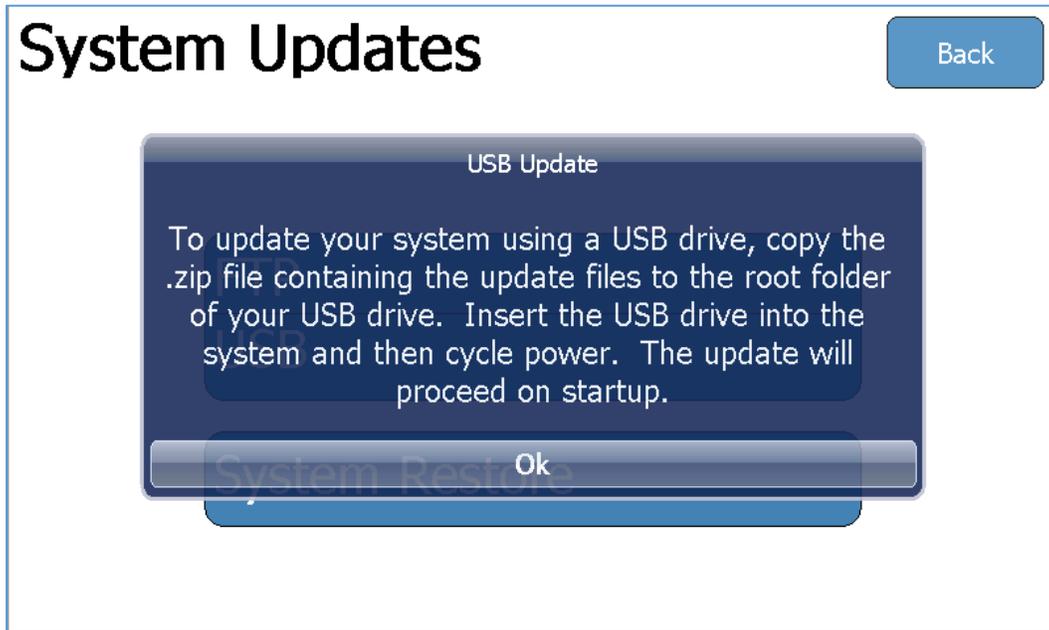
Using a PC, contact our Product Support Team (support@gossenmetrawatt.com) to receive the .zip file. Save the .zip file to the root folder of a USB flash drive. Insert that USB flash drive in an available USB receptacle on the back of the SECU**LIFE IFPRO**. Use the SECU**LIFE IFPRO** power switch to cycle power and automatically initiate the software update from the inserted USB flash drive. Follow the SECU**LIFE IFPRO**'s onscreen instructions to complete the update.

System Restore
Each time the SECU**LIFE** **IF**PRO software is updated, a backup of the previous version is created. If needed, press the **System Restore** key to display the following screen:
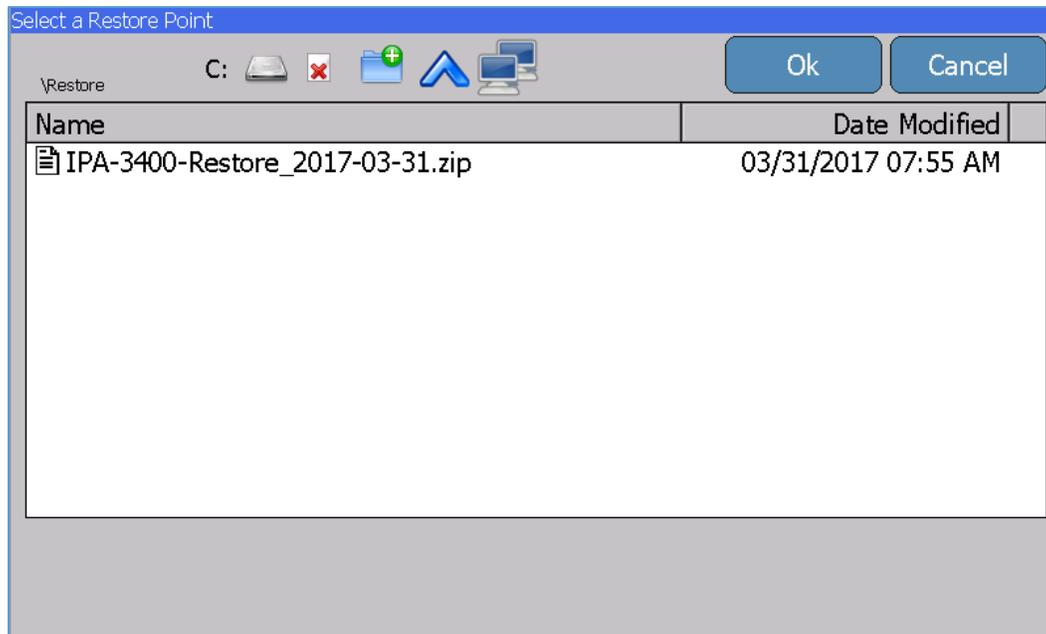

To restore a previous version, select the file and press the **Ok** key.

Remote Mode

This mode allows the SECU**LIFE IF**PRO to be controlled from a remote PC on a network. To activate Remote Mode, connect the SECU**LIFE IF**PRO to the network then press the **Remote Mode** key.
Note: No visible changes will occur on the SECU**LIFE IF**PRO. A background application has been launched to allow the remote access.

Using a PC (on the same network as the SECU**LIFE IF**PRO) browse to the device in windows explorer by typing "\\IPA3400_xxxx\Utility" in the address field, where xxxx is the serial number of the SECU**LIFE IF**PRO. Copy the CERHost utility (cerhost.exe) file to the PC. Launch the CERHost file on the PC and select File – Connect. A window similar to the following will appear:
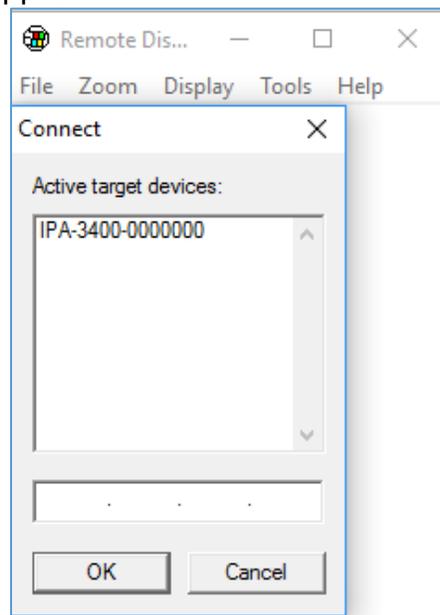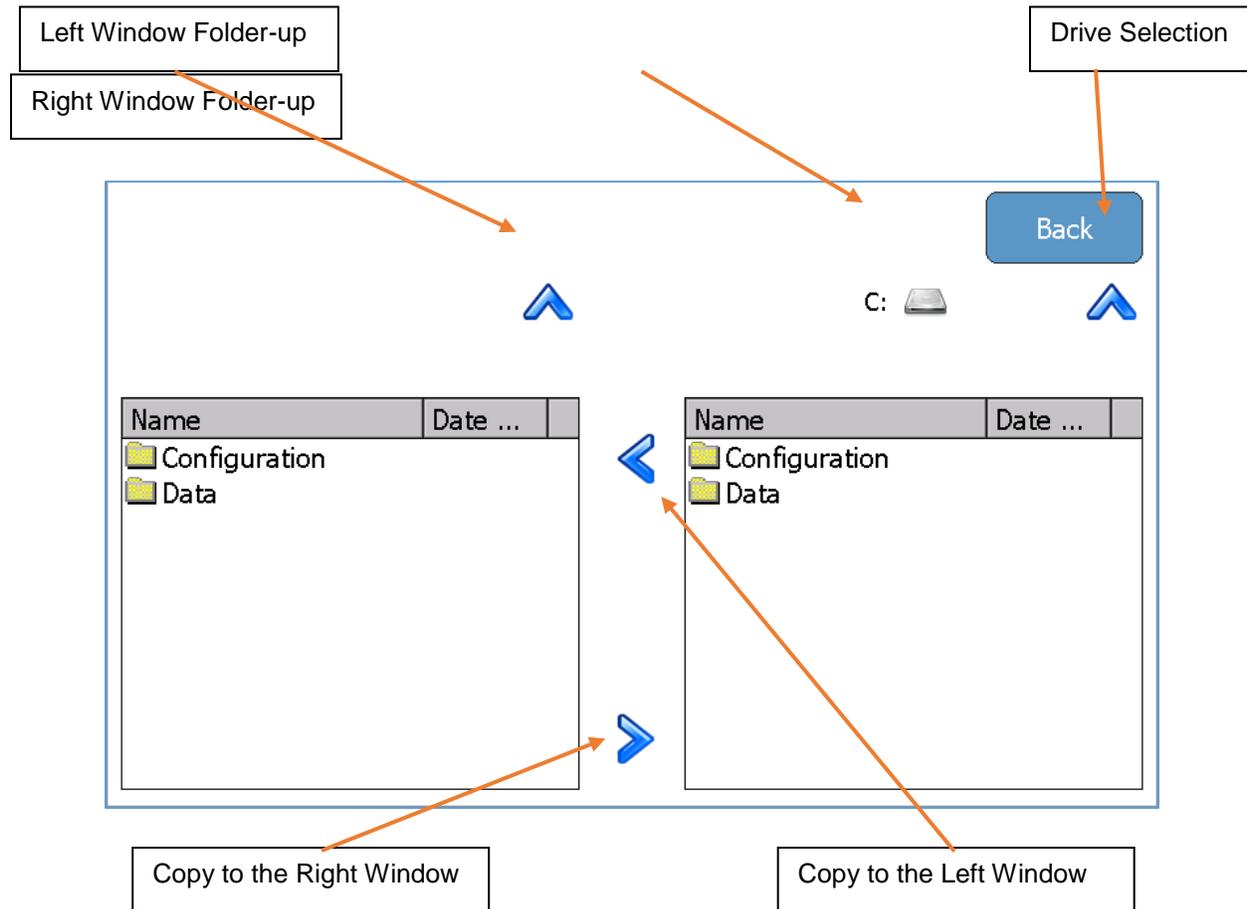
Select the listed SECU**LIFE IF**PRO "Active target device" and select the OK button. The PC display may flicker or show lines. To fix this, select the CERHost application Tools - Config menu and set the Update selection to "Whole screen":
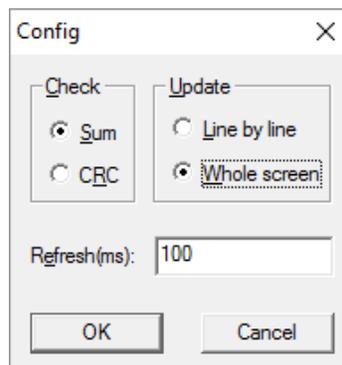
The **Transfer Files** key allows the user to copy any folder or file between the SECU**LIFE IF**PRO and an external USB flash drive, directly from the SECU**LIFE IF**PRO.

Left Window Folder-up

Right Window Folder-up

Drive Selection

Back

C:

Name	Date ...	
Configuration		
Data		

Name	Date ...	
Configuration		
Data		

Copy to the Right Window

Copy to the Left Window

The left window is the SECU**LIFE IF**PRO hard drive (C: drive). The right window allows the user to select the SECU**LIFE IF**PRO (C: drive) or any inserted USB flash drive (D:, E:, F:, or G:) using the drive selection button. Highlight the folder or file to copy from either window, then press the copy arrow pointing towards the desired file location.

Press the **Networking** key to display the current network information:

Address Type – The user can select whether the IP address is received automatically from a DHCP server or configured for a Static IP address. **NOTE: After changing the Address Type, the system will need to be rebooted for the changes to take effect.**

IP Address – This field identifies the IP address when DHCP is enabled or allows the user to enter an IP address when the Static Address Type is selected.

Subnet Mask– This field identifies the Subnet Mask when DHCP is enabled or allows the user to enter a Subnet Mask when the Static Address Type is selected.

Default Gateway – This field identifies the Default Gateway when DHCP is enabled or allows the user to enter a Gateway address when the Static Address Type is selected.

MAC Address – This read only field identifies the MAC address of the SECU**LIFE IF**PRO.

Network Name – This identifies the SECU**LIFE IF**PRO on the network. The default name is SECULIFE IFPRO_xxxx where "xxxx" is the SECU**LIFE IF**PRO serial number. Network names must be unique for each device on a network.
Using a PC (on the same network as the SECU**LIFE IF**PRO) browse to the device in windows explorer by typing "\\IPA3400_xxxx\" in the address field, where xxxx is the serial number of the SECU**LIFE IF**PRO.

Flow Module Replacement

The SECU**LIFE** **IFPRO** System is unique in that it uses a Patent Pending replaceable flow module design. This means the system can run with one to four flow modules in any of the four module slots.

The SECU**LIFE** **IFPRO** flow module is a self-contained unit that is a complete flow measuring assembly with all programming, model number, serial number, calibration data, and usage history stored onboard.

The flow modules are completely interchangeable within the unit, and from unit to unit. The information in the module is read by the SECU**LIFE** **IFPRO** and displayed in the System Information screen in System Tools. This information is appended to all test data and is available on all test reports.

From a service or upgrade viewpoint, this provides for maximum flexibility. The user is in full control. If you buy a unit with just 1 module, you can use this process to upgrade the system with up to three additional modules.

SECU**LIFE** **IFPRO** **Flow Module**

The individual module is all that is required for annual calibration. Simply return the module and continue to use the system. By staggering the calibration dates on the modules, or having a spare module, system down time is at a minimum.

Flow modules can be replaced without any tools and do not require that any wiring or fluid connection be removed or installed. See the following page for Flow Module Installation details.
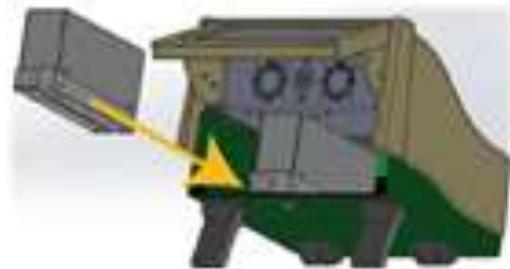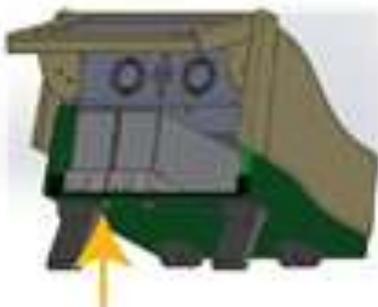
FLOW MODULE INSTALLATION

1) LOOSEN ACCESS PANEL SCREWS
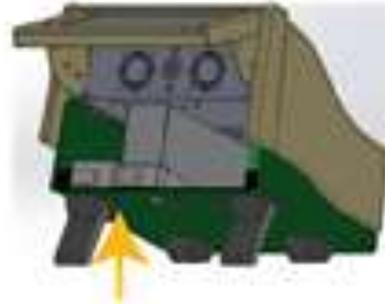
2) LOOSEN MODULE SCREW

3) REMOVE MODULE PLUG

4) INSERT NEW MODULE

5) TIGHTEN MODULE SCREW

6) TIGHTEN ACCESS PANEL SCREWS

NOTE :   All SECU**LIFE** **IF**PRO screws are self-tetaining.
They can be loosened, but not removed.

- Turn the SECU**LIFE** **IF**PRO Power Switch to the Off (O) position.

- Lift the SECU**LIFE** **IF**PRO screen to its highest position using the
  tab at the bottom-right of the screen.

- Loosen the two SECU**LIFE** **IF**PRO Access Screws and remove the
  SECU**LIFE** **IF**PRO Flow Module Access Panel.

- Loosen the Module Screw on the bottom of the SECU**LIFE** **IF**PRO
  that corresponds to the desired location.

- Slide the Module Plug, or previous Flow Module out of the
  SECU**LIFE** **IF**PRO chassis.

- Gently slide the new Flow Module into the SECU**LIFE** **IF**PRO chassis.

- Tighten the Module Srew under the SECU**LIFE** **IF**PRO that corresponds
  to the installed Flow Module.

- Install the SECU**LIFE** **IF**PRO Access Panel and gently tighten the two
   SECU**LIFE** **IF**PRO Access Screws.

- Turn the SECU**LIFE** **IF**PRO Power Switch to the On (I) position and
  begin using the new Flow Module.

MANUAL REVISIONS

Revision #   **Revisions Made**

Rev 01   Preliminary Manual

LIMITED WARRANTY

WARRANTY: GMC-I MESSTECHNIK GMBH WARRANTS ITS NEW PRODUCTS TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP UNDER THE SERVICE FOR WHICH THEY ARE INTENDED. THIS WARRANTY IS EFFECTIVE FOR TWELVE MONTHS FROM THE DATE OF SHIPMENT.

EXCLUSIONS: THIS WARRANTY IS **IN LIEU OF** ANY OTHER WARRANTY EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF **MERCHANTABILITY** OR FITNESS FOR A PARTICULAR PURPOSE.

GMC-I MESSTECHNIK GMBH IS NOT LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

NO PERSON OTHER THAN AN OFFICER IS AUTHORIZED TO GIVE ANY OTHER WARRANTY OR ASSUME ANY LIABILITY.

REMEDIES: THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY SHALL BE: (1) THE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS OR PRODUCTS, WITHOUT CHARGE. (2) AT THE OPTION OF GMC-I MESSTECHNIK GMBH, THE REFUND OF THE PURCHASE PRICE.

SPECIFICATIONS

FLOW MEASUREMENT		
RANGE	0.01 ml/hr to 2600 ml/hr	
FLOW RATE	0.10 ml/hr to 1600 ml/hr	
FLOW RESOLUTION	0.010 ml/hr (10 µl/hr)	
RESOLUTION	< 50 ml/hr	1 µl/hr
	≥ 50 ml/hr	10 µl/hr
ACCURACY	1% reading + 0.005 ml/hr	0.1 to 9.9 ml/hr
	1% reading	10 to 700 ml/hr
	2% reading	700 to 1600 ml/hr
BACK-PRESSURE CONTROL	RESOLUTION	0.001 PSI (0.05 mmHg)
	RANGE	-3.867 to 11.602 PSI (-200 to 600 mmHg)
	ACCURACY	0.1% FS
MIN. VOLUME	0.05 ml (50 µl)	
MEASUREMENT RATE	1 Hz	
CHANNELS	1, 2, 3 or 4 (user-installable)	

VOLUME MEASUREMENT	
RANGE	0 to 9999 ml
RESOLUTION	0.001 mL (1.0 µl)
ACCURACY	1% Reading after 100 µl

PRESSURE MEASUREMENT	
RANGE	-5 to 50 PSI (-258.57 to 2585.75 mmHg)
RESOLUTION	0.001 PSI (0.05 mmHg)
ACCURACY	0.25% FS
ENGINEERING UNITS	PSI (default), mmHg, Bar, kPa
MEASUREMENT RATE	1 Hz

PCA/BOLUS MEASUREMENT	
DISPLAY RANGE	0.1 to 100 ml
MEASUREMENT RANGE	0.5 to 100 ml
ACCURACY	±1%
MIN. BOLUS VOLUME	0.01 ml (10 µl)

ELAPSED TIME	
RANGE	0-120 hours
RESOLUTION	1 second
ACCURACY	0.5 second

OCCLUSION (PRESSURE) TEST	
RANGE	-258.57 to 2585.75 mmHg (-5 to 50 PSI)
RESOLUTION	0.05 mmHg (0.001 PSI)
ACCURACY	0.1% FS

ELECTRICAL		
EXTERNAL CONNECTIONS	USB HOST PORTS	4 USB-A
	SUPPORTED DEVICES	HID Keyboard HID Mouse HID Barcode Scanner Flash Drive Printer Bluetooth Module
	ETHERNET	10/100/1000 LAN
	POWER	
AUX	Ports	4 (1 per channel)
	Supported Devices	Nurse Call PCA trigger output (optional accessory cable)
POWER	Input Voltage	90-264 VAC
	Input Frequency	50-60 Hz
	Power Consumption	90 VA
	Fuses	5 x 20 mm, T2 4A

PHYSICAL & ENVIRONMENTAL		
MEDIA	Distilled or Deionized Water	
MEDIA CONNECTIONS (FLUID FITTINGS)	INLET	Female Luer
	DRAIN	Male Luer Lock
DISPLAY	7" Widescreen Color Touchscreen, 800 x 480 px	
MEMORY	CALIBRATION	EEPROM
	DATA RECORDS	INTERNAL 32 GB Flash memory
CONSTRUCTION	ENCLOSURE	PC/ABS Plastic, Aluminum
SIZE (H x W x D)	7.8 x 9.1 x 10.2 Inches (mm)	
WEIGHT	SECULIFE IFPRO-1	< 8 Lbs (3.63 kg)
	SECULIFE IFPRO-2	< 10 Lbs (4.54 kg)
	SECULIFE IFPRO-3	< 12 Lbs (5.44 kg)
	SECULIFE IFPRO-4	< 14 Lbs (6.35 kg)
OPERATING RANGE	15 to 40 °C (59 to 86 °F), 10 to 80% RH, Non-Condensing	
STORAGE RANGE	0 to 50 °C (32 to 122 °F)	
DATA STORAGE	Internal 32 GB	

NOTES

NOTES

GOSSEN METRAWATT

Safety through Competence

GMC-I MESSTECHNIK GMBH
Südwestpark 15
D-90449 Nürnberg
GERMANY

+49-911-8602-111
+49-911-8602-777

www.gossenmetrawatt.com
info@gossenmetrawatt.com

SECULIFE IFPRO Series User Manual
04/17 – Rev 01