



TELEDYNE TEKMAR

A Teledyne Technologies Company

World-Class Analytical Solutions and Service

Atomx XYZ Installation



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Unpacking the unit

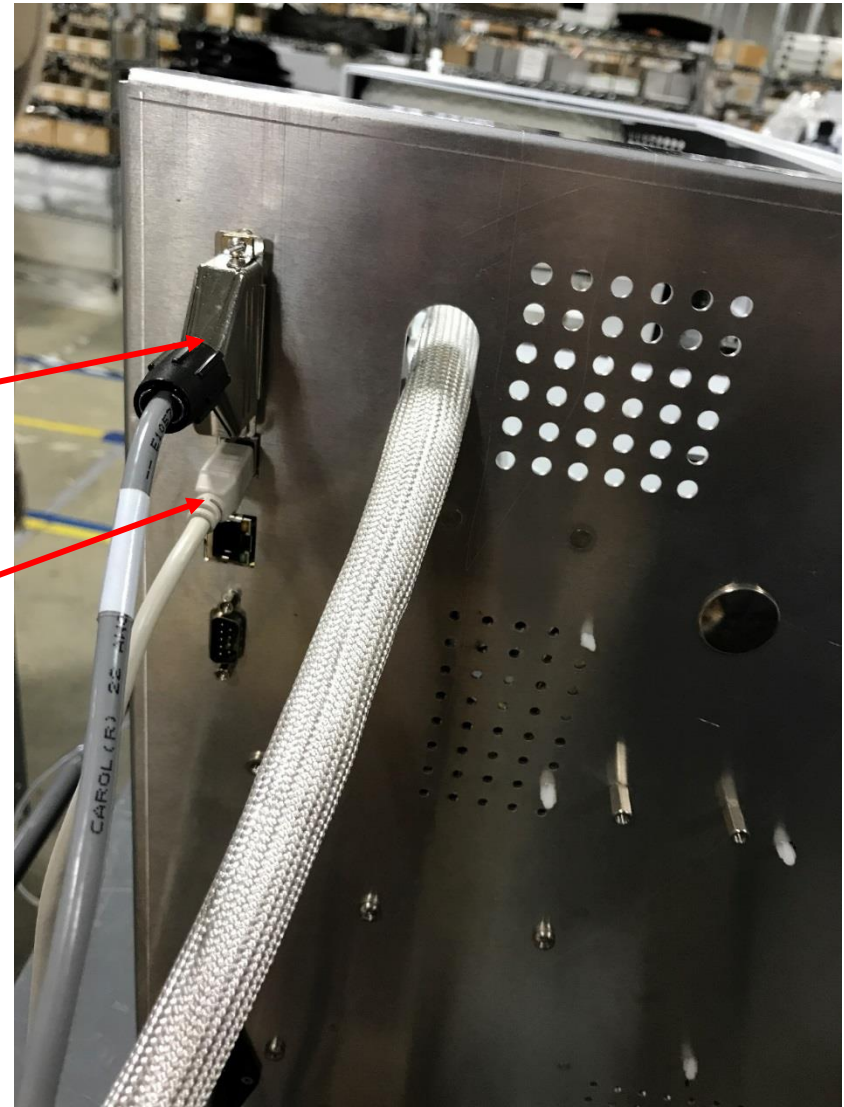
- The Atomx XYZ must be lifted from the box by sliding your hands down the slots cut in the foam and underneath the chassis. Do not try to lift by the arm.
- Compare the contents of the shipping carton against the list below. Check for each listed item.



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Electrical Connections

- Connect the power cable to the back of the Atomx XYZ system.
- Connect the 25pin GCIO cable from the back of the Atomx to the GC
- Connect the USB cable from the back of the Atomx XYZ to the PC.
Do not turn it on yet.



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Liquid, Drain, and Pressurization Gas Connections

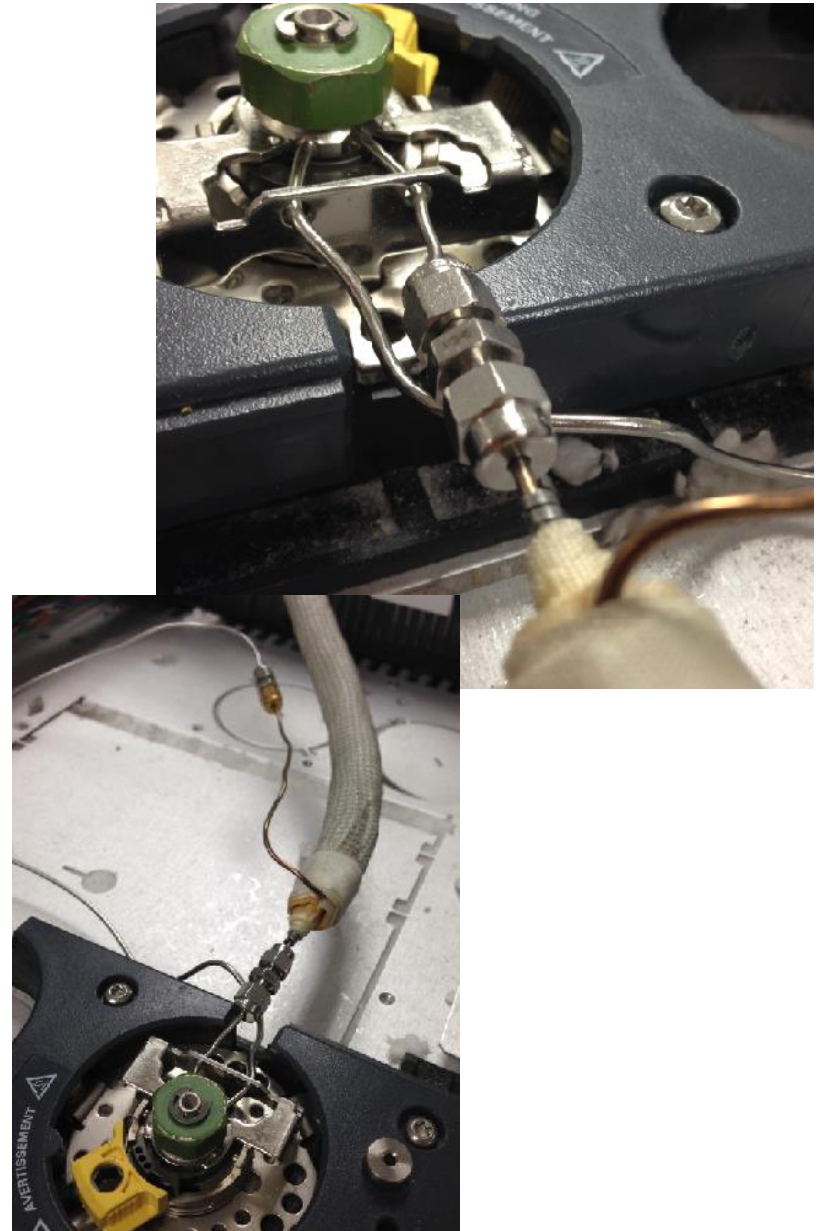
- The main reinforced drain tube is gravity fed so run downhill to an appropriate waste receptacle. This important so that water doesn't back up into the sample cup and results in the "floating cup" syndrome which can cause issues when the gripper tries to get the vial
- The rest of the drain lines are pressure fed and can be run to an appropriate waste container.
- Connect either Helium or N2 to the unit at 60-100psi.



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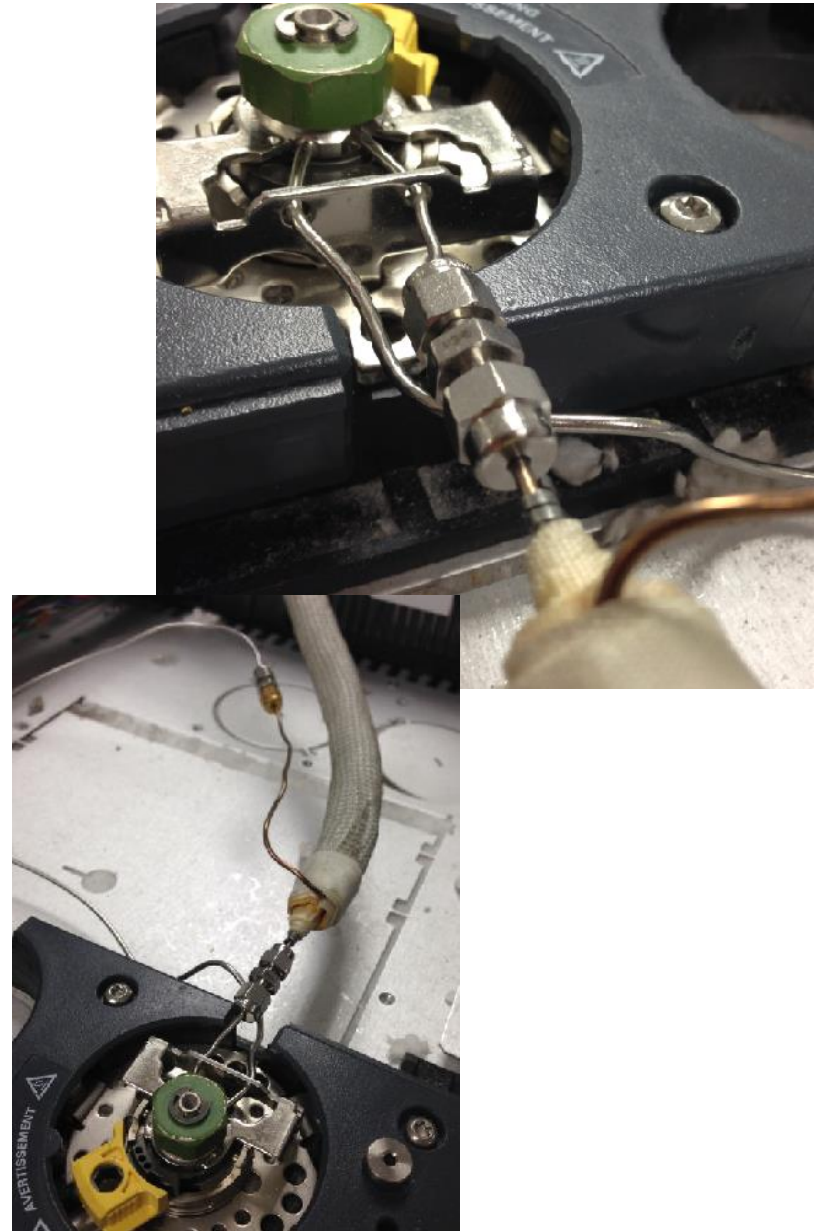
Injection Port Pneumatic Connections

- Cut the carrier gas line coming into the injection port about an inch from the bracket
- Connect the inside heated injection line to the line going into the injector.
- Connect the other non-heated line to the carrier gas line coming from the EPC



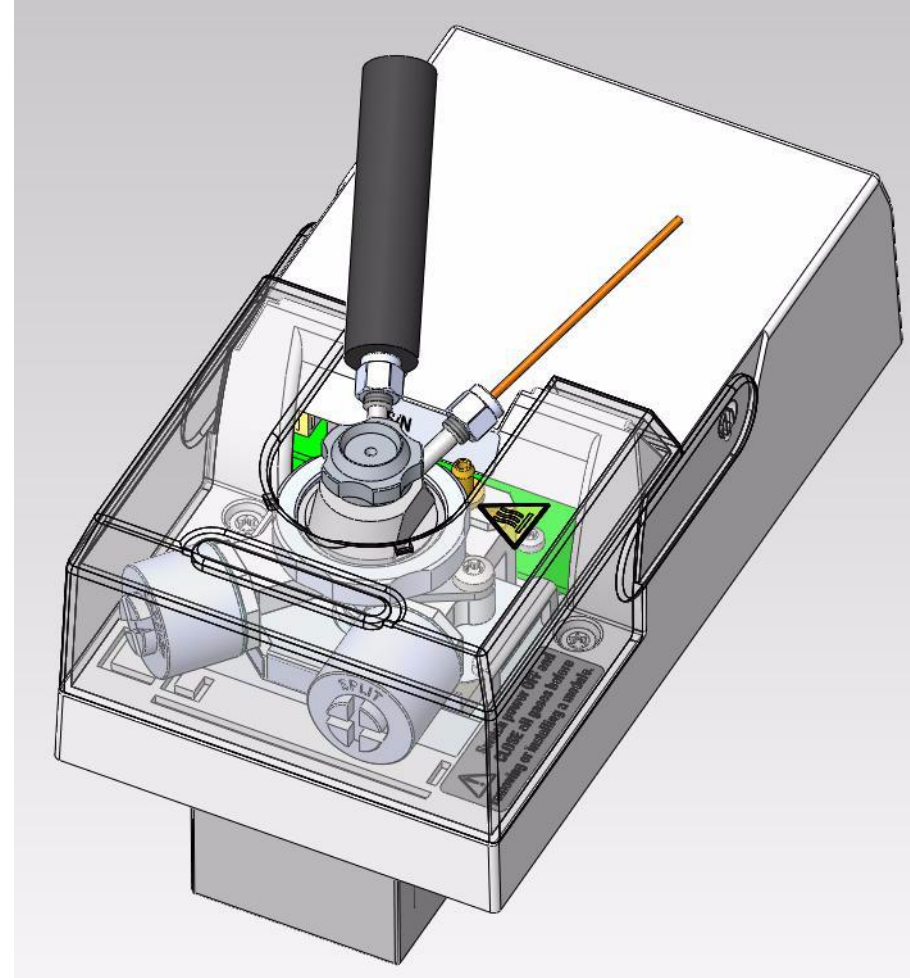
Injection Port Pneumatic Connections

- Be sure not to cut the septum purge line as it is 2mm tubing and you will either need to replace the weldment or purchase a 2mm union. The carrier line is the 1/16" line that is welded to the flat surface of the injector body while the septum purge line is welded to a curved surface



Thermo Inlet Connection

- Install Thermo P&T Adaptor Kit
- Connect transferline to top connector if pointing towards the right



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Glassware Installation

- Remove the plastic placeholder from the mount and install sparge tube.



Glassware Installation

Push the glassware all the way up until it bottoms out and then back it out a couple mm before tightening.

The drain line should be positioned just above the frit.



Water Reservoir

- Fill the reservoir with VOC free de-ionized water and drop both clear water lines into the reservoir.
- Place the yellow line in methanol bottle if applicable.



Software

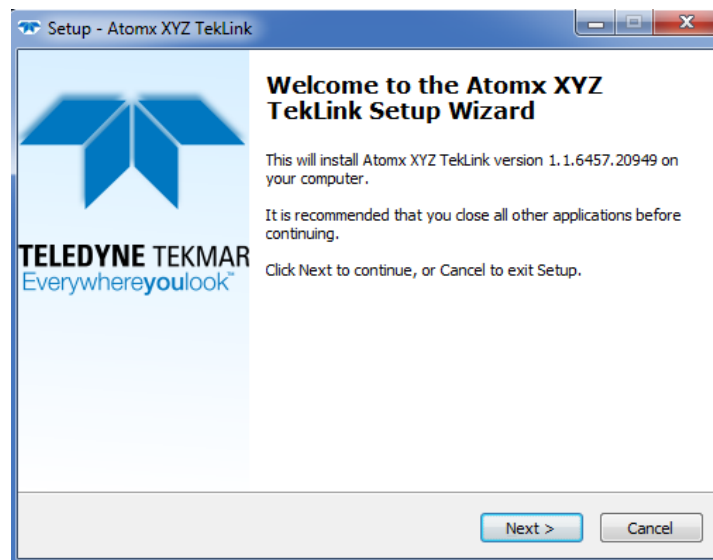
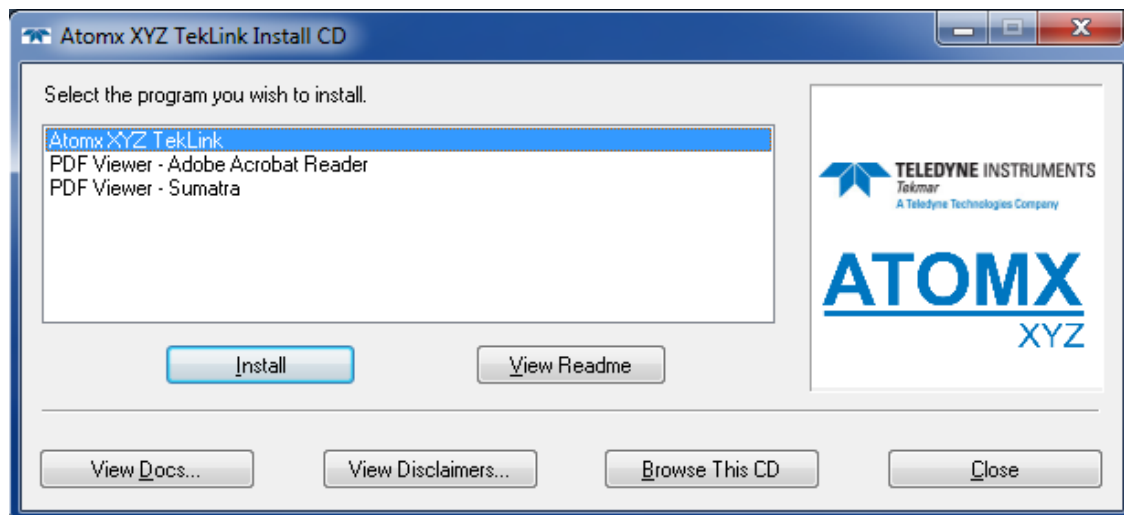
- Obtain Administrator access to the host computer and install the software per the menu driven instructions.
- The software will install the necessary peripherals and drivers automatically if needed.



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Software

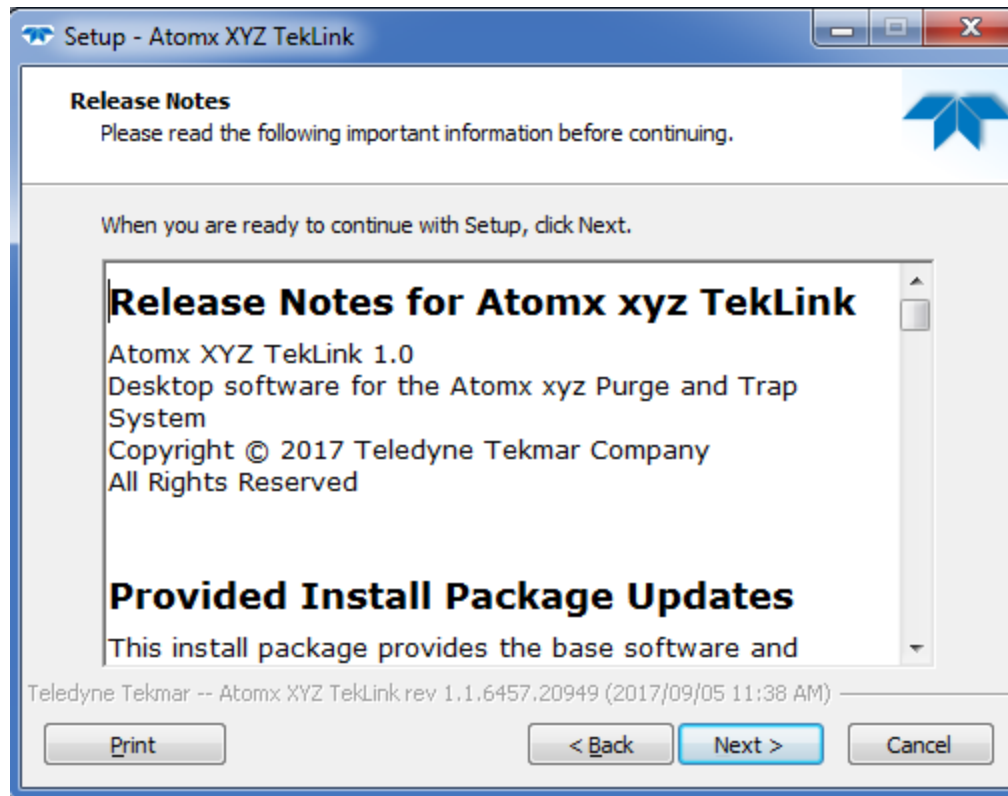
- Proceed through the steps



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Software

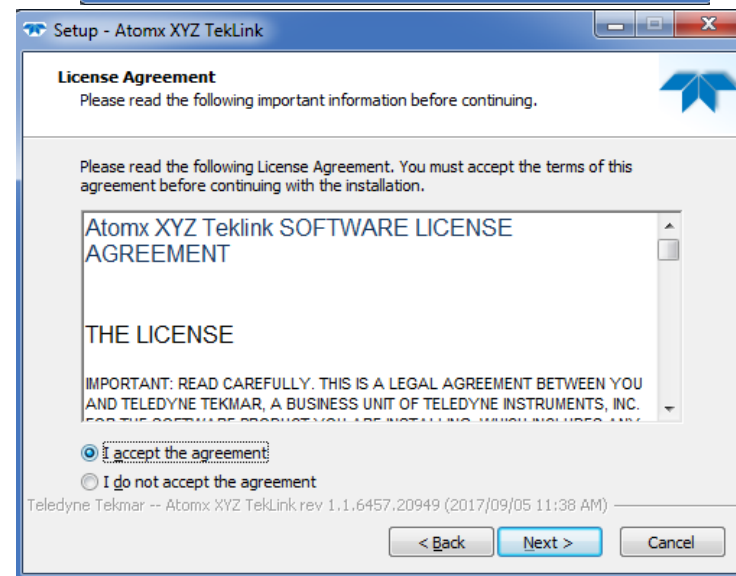
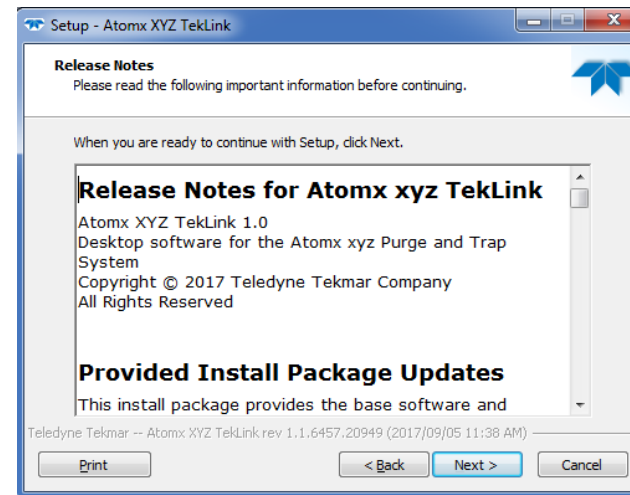
- Release notes describe SW and FW updates and what was changed or issues that were addressed if applicable.



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Software

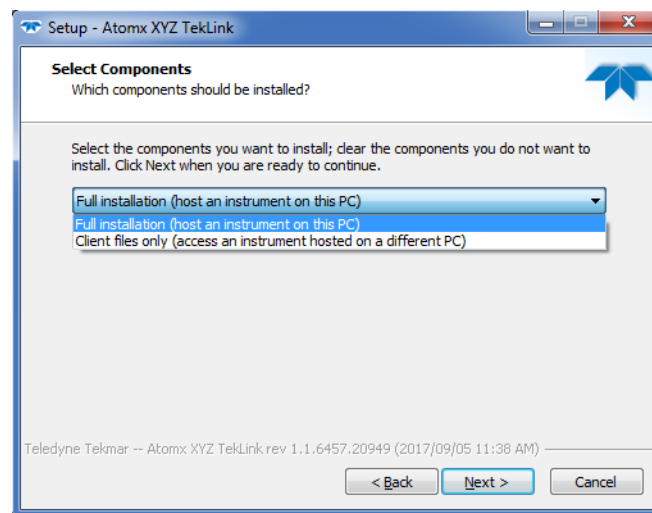
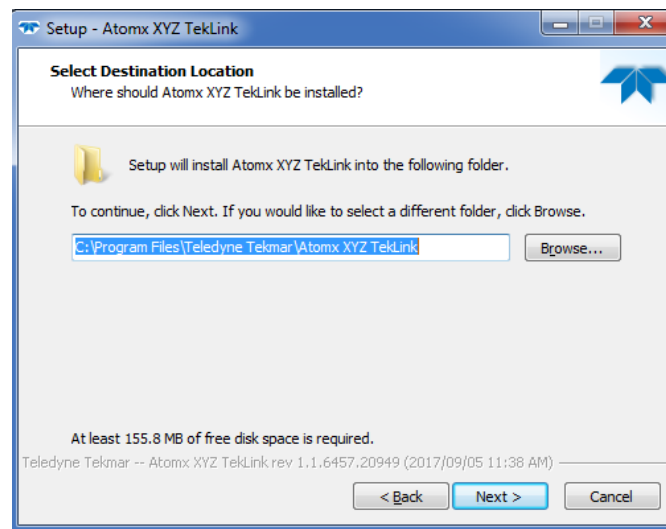
- Acceptance of the SW license.



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Software

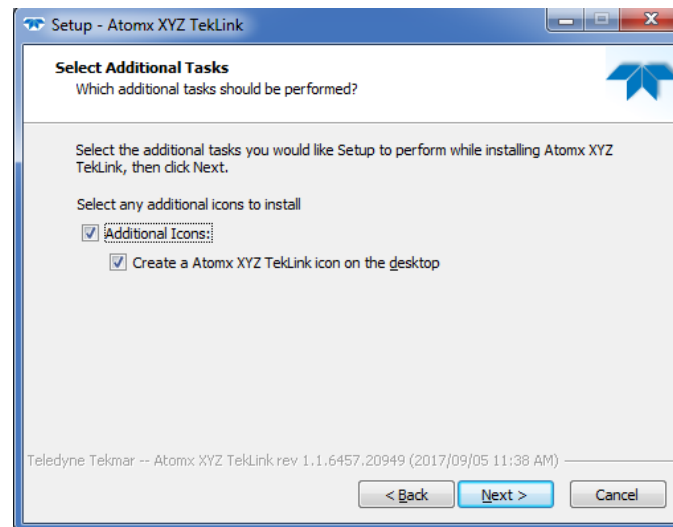
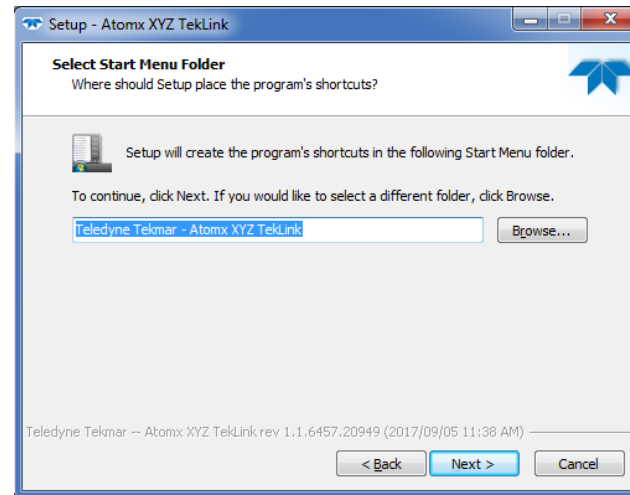
- Destinations
- Components selection to determine if this is the host PC connected to the unit or a Client PC viewing it remotely over a network connection.



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Software

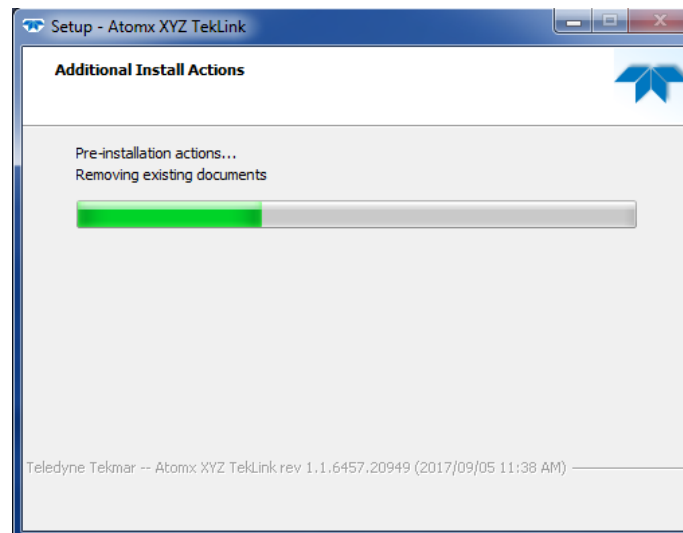
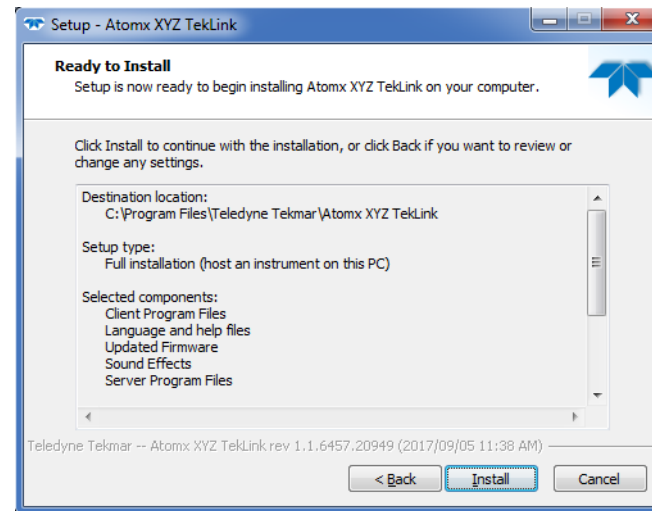
- Start Folder selection
- Additional tasks/Icons



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Software

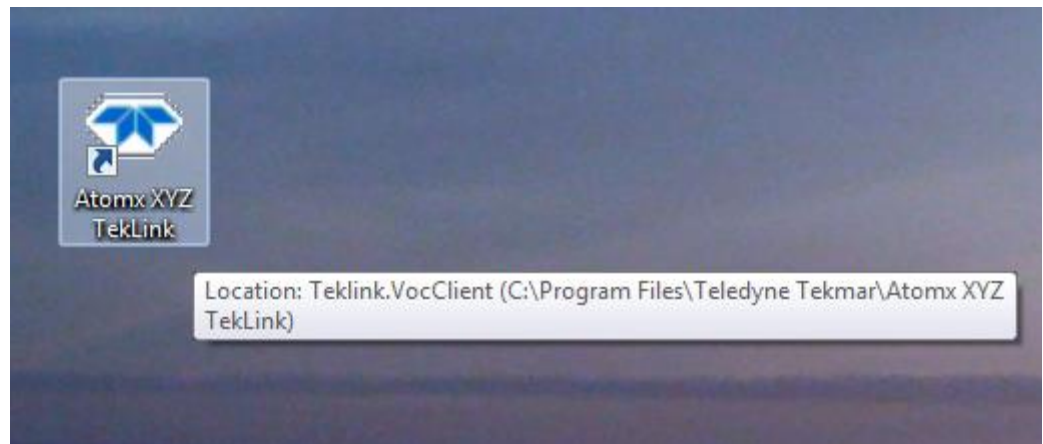
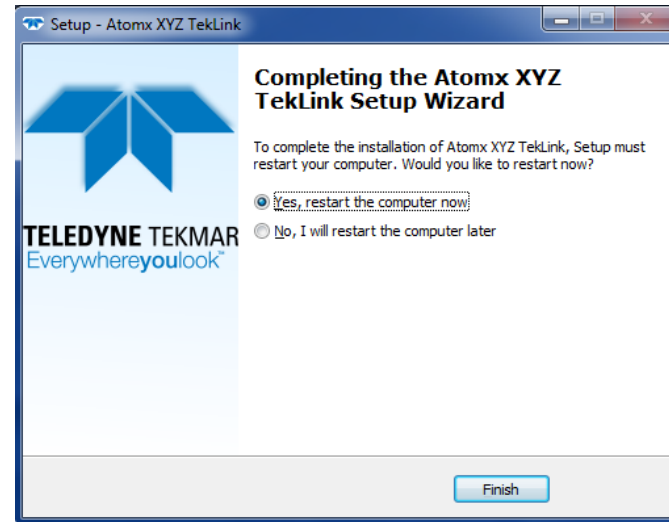
- Proceed with installation



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Software

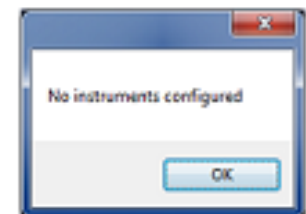
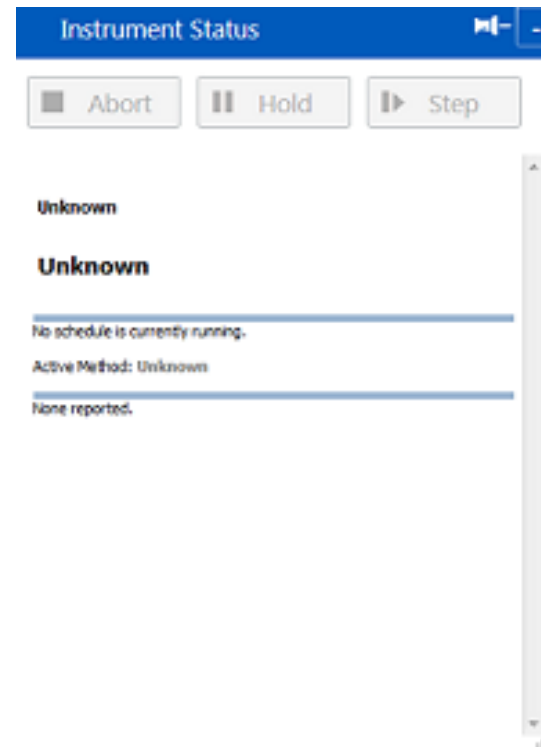
- A re-start may be necessary.
- Finally, an icon will be placed on the desktop.



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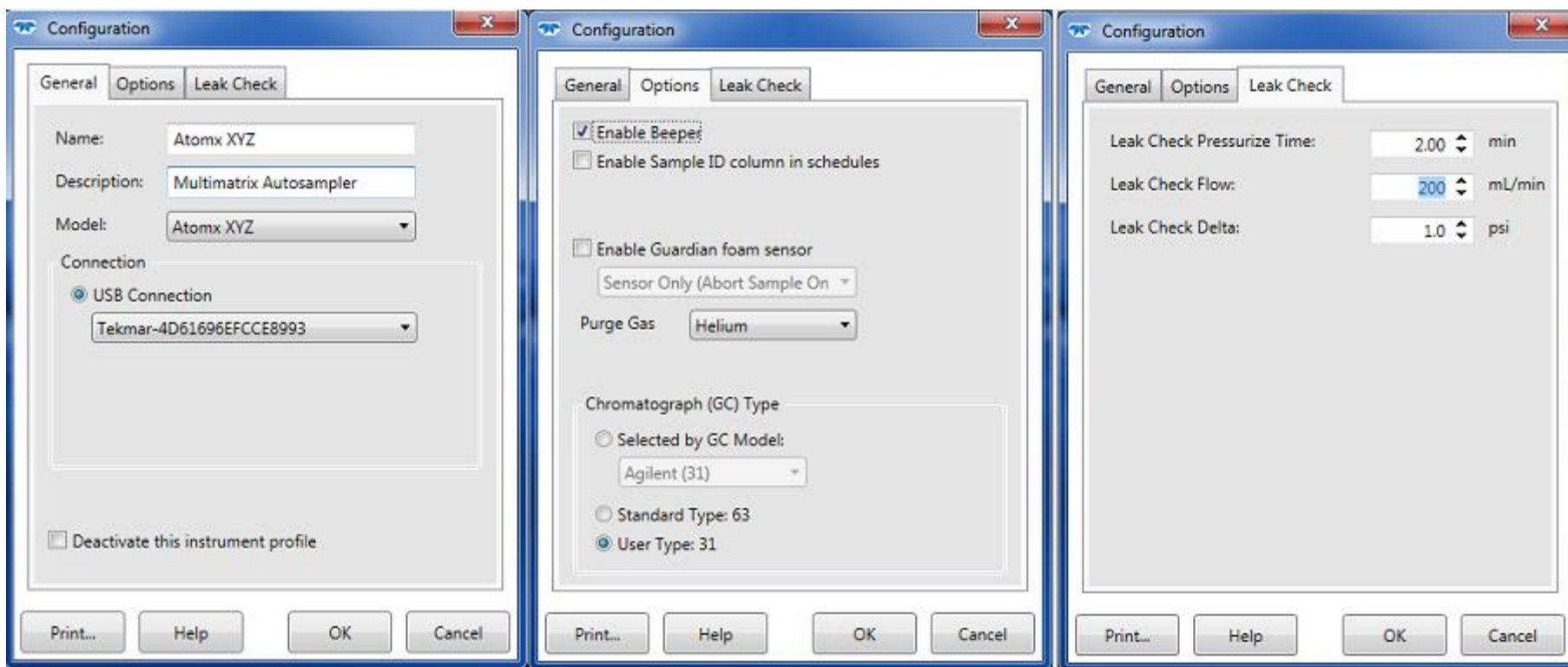
Software

- Connect the USB cable
- Start SW
- Turn on the unit
- After USB drivers are installed, unit will need to be configured.



Software

- Various Configuration Screens



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Software

- Status screen of configured unit

Instrument Status

Abort Hold Step

Atomx XYZ (Atomx XYZ)
Ready

Purge Ready

Load a schedule to begin...

No schedule is currently running.

Active Method: [Default Water](#)

Name	Current	Set Point
Mass Flow	0 mL/min	10 mL/min
Pressure	0.1 psig	n/a
Syringe	0.0 mL	0.0 mL
Transfer Line	140°C	140°C
Oven	140°C	140°C
Mount	90°C	90°C
Trap	25°C	Ambient
Sample Cup	26°C	Ambient
MCS	29°C	Ambient
Soil Valve	100°C	100°C
Water	89°C	90°C

ATOMx XYZ TekLink

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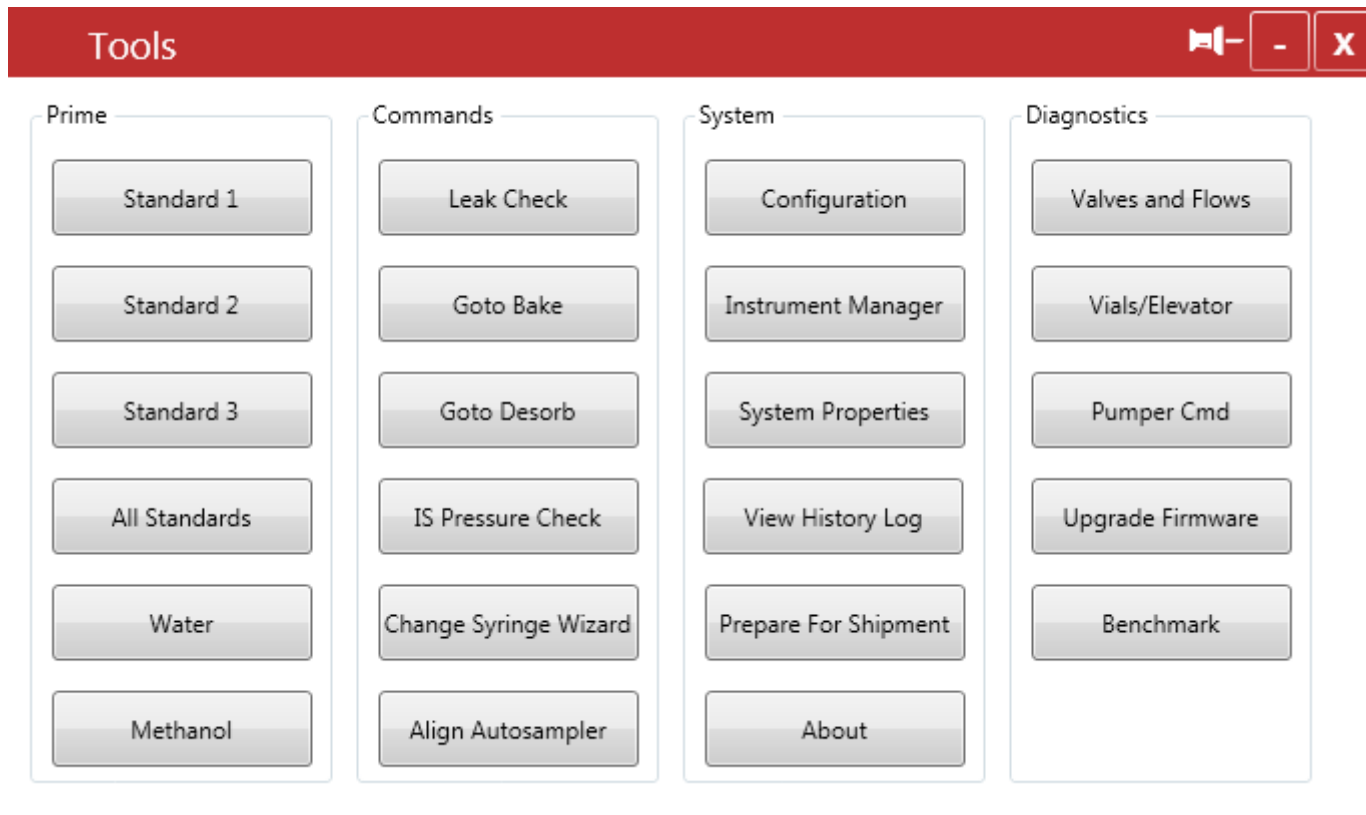
Methods Schedules Tools Help



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- Tools Screen



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- Arm Diagnostics

XYZ Arm Diagnostics

NOTE: Use caution when using the motor diagnostics. Improper use can interfere with mechanical movement (s) and damage your system.

Position	Current	Destination	
Elevator	Down	Down	Move
Gripper	Open	Open	Move
Vial Position	Elevator	Elevator	Move
Z Arm	Up	Up	Move

Mixer
Mixer Set: ☒ Off ☐ Slow ☐ Med ☐ Fast

X axis (mm): Current -> 400 Target -> 400
Y axis (mm): Current -> 100 Target -> 100
Z axis (mm): Current -> 0 Target -> 0
W axis (mm): Current -> 0 Target -> 0

Gripper Sensor:
NO vial detected

Standards (uL)

1 0 Dispense 1 Only

2 0 Dispense 2 Only

3 0 Dispense 3 Only

Dispense All

Home This moves the Autosampler motors to their absolute home position.

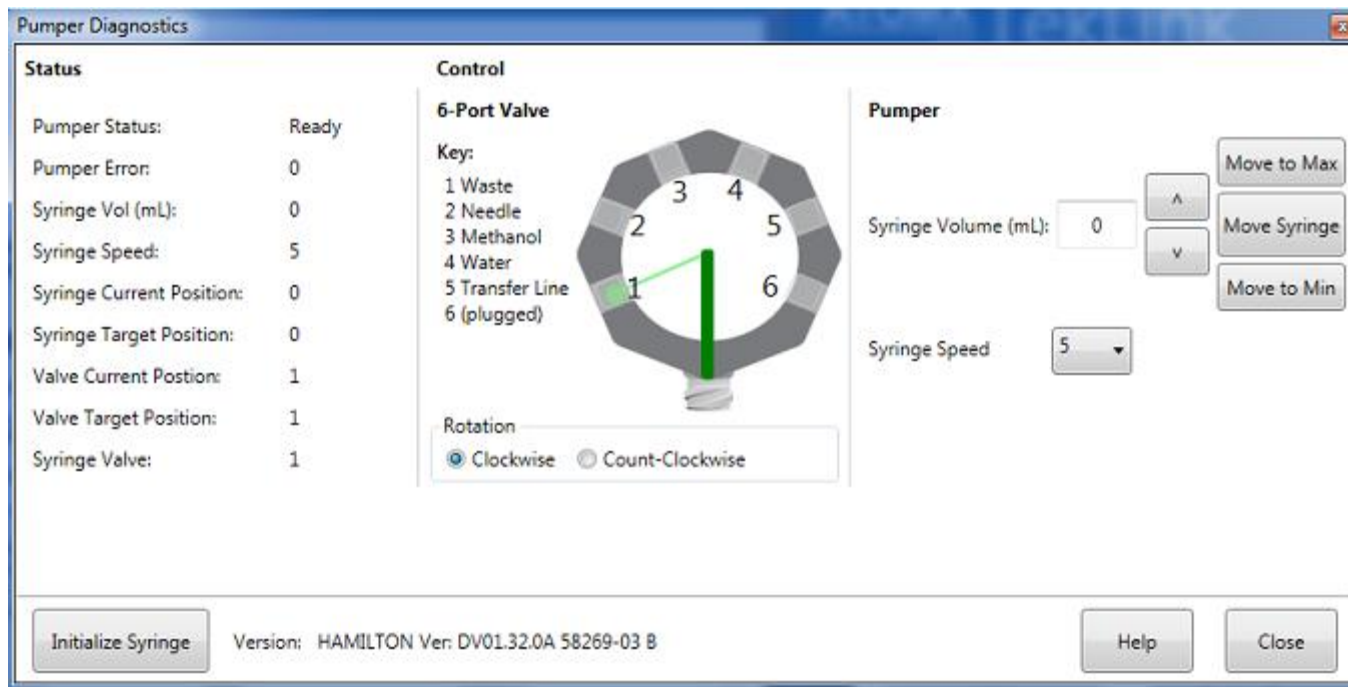
Close Help



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Software

- Pumper Diagnostics



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Software

- Schedule Editing Screen

Atomx XYZ - Atomx XYZ Schedule -

Open Save Load Print Abort Hold Step

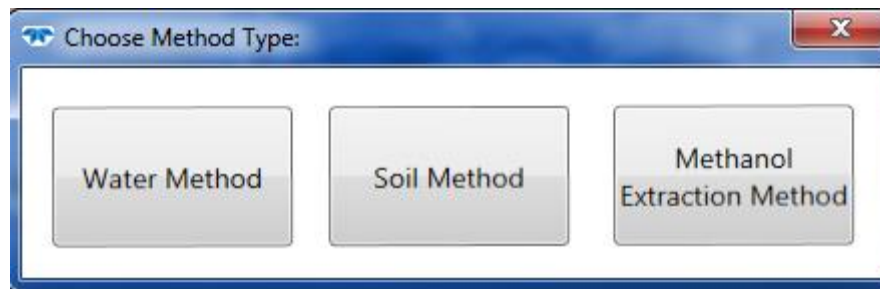
Type "0" for a blank vial ☐ Delete after the next archive

#	Use?	Vial	Method	Type	STD1	STD2	STD3	Dil	Purge	Bake	Status
1	<input checked="" type="checkbox"/>	1	Default Water	Water	5	0	0	1			
2	<input checked="" type="checkbox"/>	2	Default Soil	Soil	5	0	0	1			
3	<input checked="" type="checkbox"/>	3	Default Methanol	Methanol	5	0	0	50			



Software

- Method Edit Type Choice Screen



Software

- Water Method Edit Screen

Atomx XYZ - Atomx XYZ Water Method -

Open Save Load Print

Standby Purge Desorb Bake

Name	Value	Unit
Valve Oven Temp	140	°C
Transfer Line Temp	140	°C
Sample Mount Temp	90	°C
Water Heater Temp	90	°C
Sample Cup Temp	20	°C
Soil Valve Temp	100	°C
Standby Flow	10	mL/min
MCS Ready Temp	45	°C
Purge Ready Temp	40	°C

☐ Delete after the next archive

Valve Oven Temp

Set the 6-port valve oven at a temperature high enough to prevent cross contamination, but not too high so as to decompose analytes.

Maximum 250°C
Default 140°C
Minimum 20°C



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Software

- Cntrl Shft-D to enter Debug Mode
- Status screen provides additional info
- Extra options in arm diagnostics

Instrument Status

■ Abort

|| Hold

▶ Step

Atomix XYZ (Atomix XYZ)
Ready

Purge Ready
Load a schedule to begin...

No schedule is currently running.

Active Method: [Default Water](#)

Name	Current	Set Point
Mass Flow	10 mL/min	10 mL/min
Pressure	0.9 psig	n/a
Syringe	0.0 mL	0.0 mL
Transfer Line	140°C	140°C
Oven	139°C	140°C
Mount	90°C	90°C
Trap	26°C	Ambient
Sample Cup	24°C	Ambient
MCS	28°C	Ambient
Soil Valve	99°C	100°C
Water	90°C	90°C

DEBUG MODE ENABLED
Server: Idle
Firmware: STATE_WATER_PURGEREADY (40963)

Main Status Flags: 0x00004316
STATUS_TEMP_BOARD_RDY
STATUS_BOOTUP_MODE
STATUS_CONFIGURATION_UPDATED
MAIN_STATUS_SCHED_CHANGE
MAIN_STATUS_GOTO
STATUS_LEAKCHECK_PASS

Error Source (Instrument / Board):
BOARD_NULL / BOARD_NULL
Error Flags: 0x00000000
0

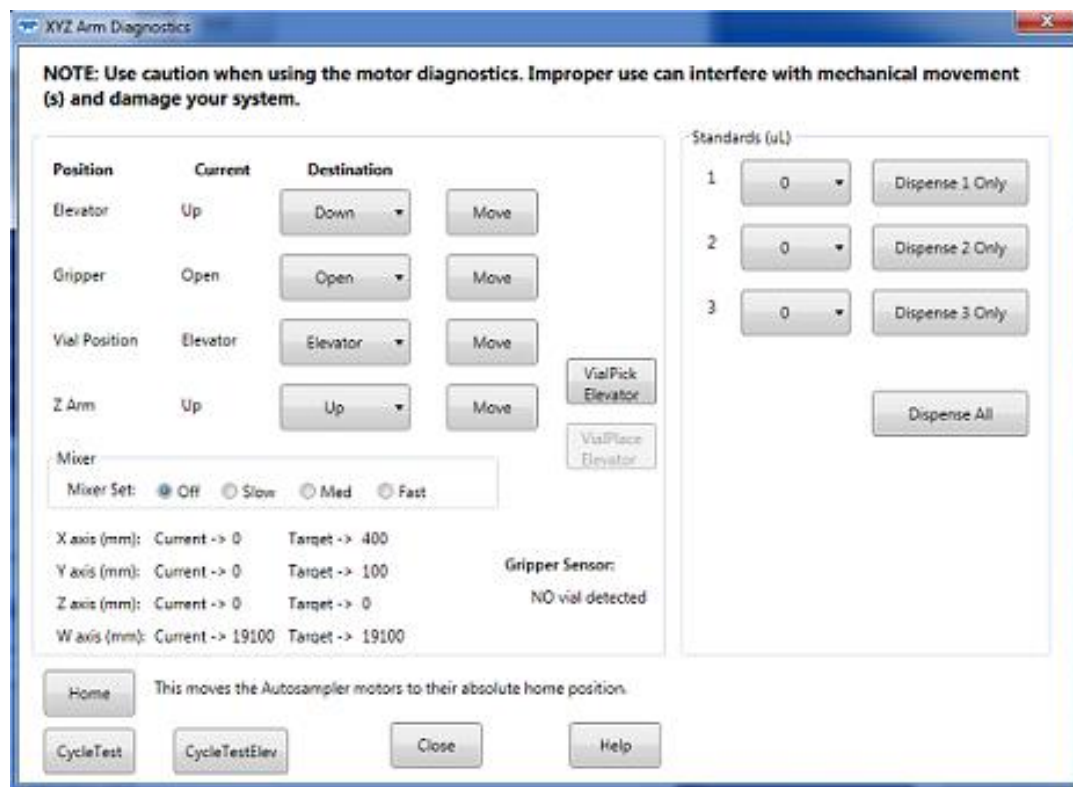
GC Purge Start Signal Open: True
GC Ready Signal Open: True
Foam Status: FOAM_NO
Foam Eliminator Count: 0



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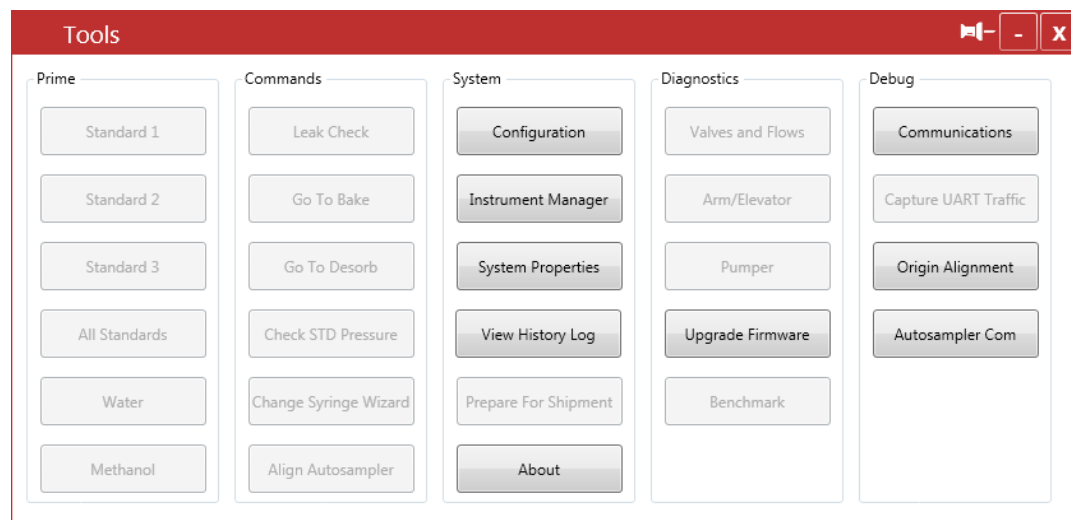
- Arm Diagnostics Screen in De-bug mode showing extra options.



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Software

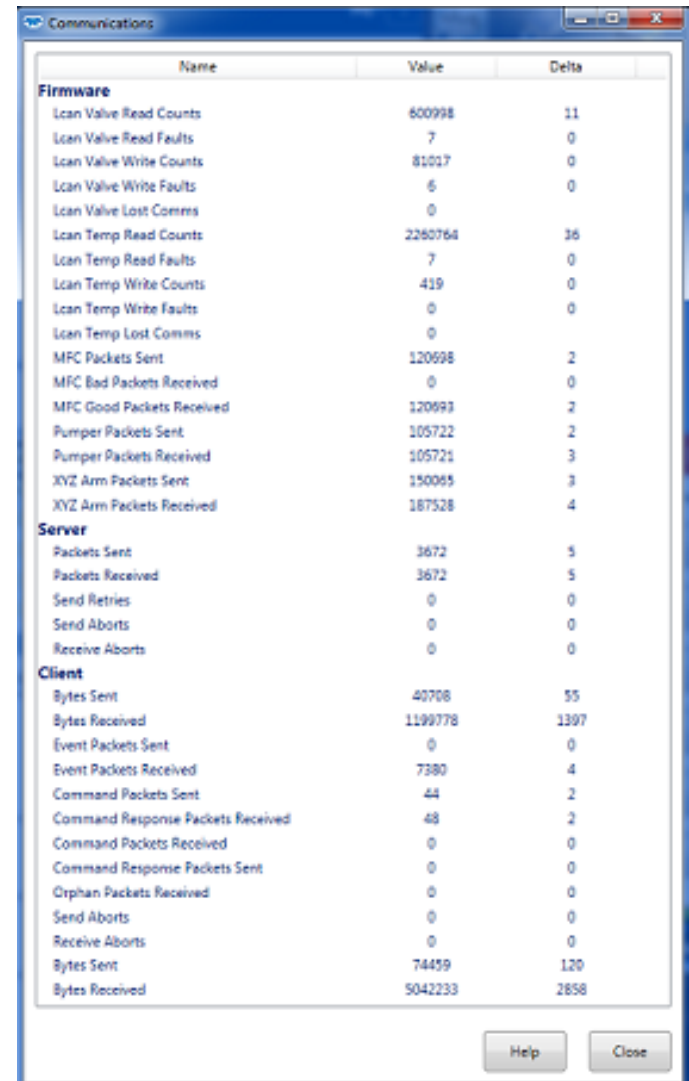
- Comm screen
- Capture UART
- Origin alignment
- Autosampler Comm



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- Comm Screen



The screenshot shows a window titled "Communications" with a table of communication statistics. The table has three columns: Name, Value, and Delta. The data is organized into three sections: Firmware, Server, and Client.

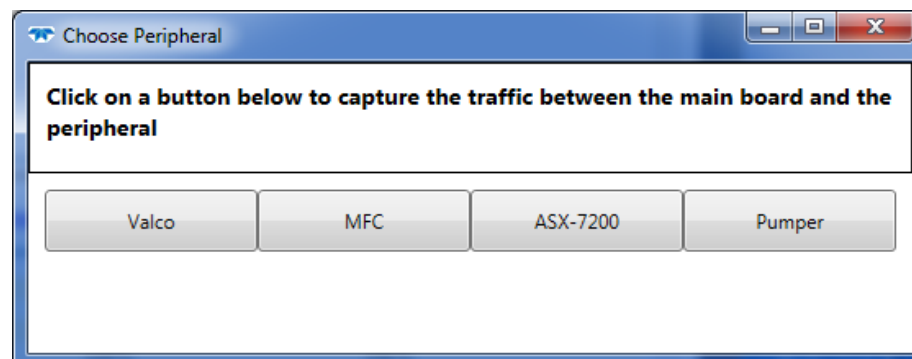
Name	Value	Delta
Firmware		
Lcan Valve Read Counts	600998	11
Lcan Valve Read Faults	7	0
Lcan Valve Write Counts	81017	0
Lcan Valve Write Faults	6	0
Lcan Valve Lost Comms	0	0
Lcan Temp Read Counts	2260764	36
Lcan Temp Read Faults	7	0
Lcan Temp Write Counts	419	0
Lcan Temp Write Faults	0	0
Lcan Temp Lost Comms	0	0
MFC Packets Sent	120698	2
MFC Bad Packets Received	0	0
MFC Good Packets Received	120693	2
Pumper Packets Sent	105722	2
Pumper Packets Received	105721	3
XYZ Arm Packets Sent	150065	3
XYZ Arm Packets Received	187528	4
Server		
Packets Sent	3672	5
Packets Received	3672	5
Send Retries	0	0
Send Aborts	0	0
Receive Aborts	0	0
Client		
Bytes Sent	40708	55
Bytes Received	1199778	1397
Event Packets Sent	0	0
Event Packets Received	7380	4
Command Packets Sent	44	2
Command Response Packets Received	48	2
Command Packets Received	0	0
Command Response Packets Sent	0	0
Orphan Packets Received	0	0
Send Aborts	0	0
Receive Aborts	0	0
Bytes Sent	74459	120
Bytes Received	5042233	2858

At the bottom right of the window are two buttons: "Help" and "Close".



Software

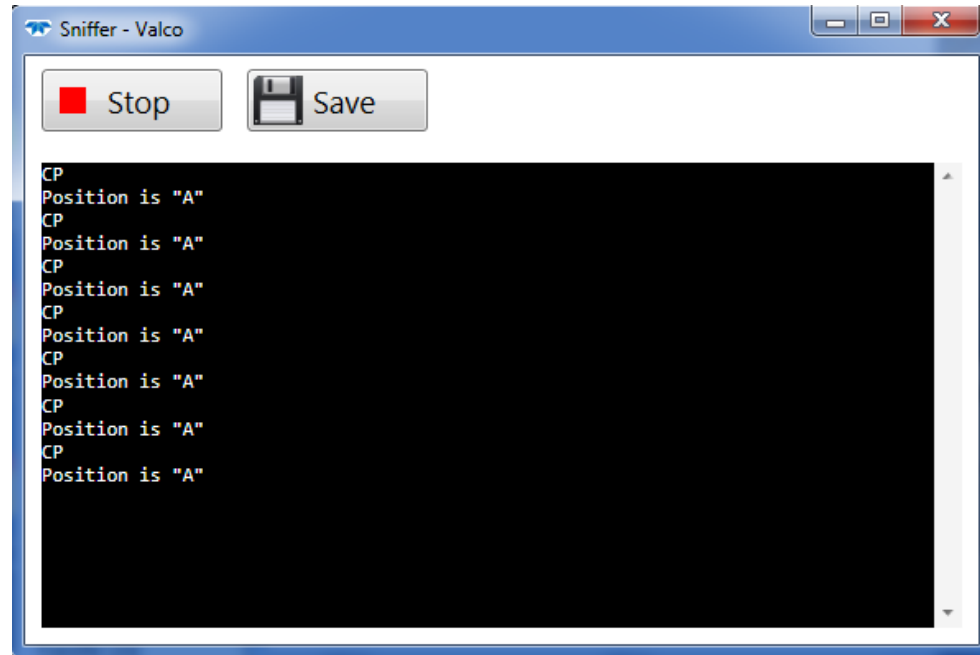
- Capture UART Screen
- Choose what you want to monitor



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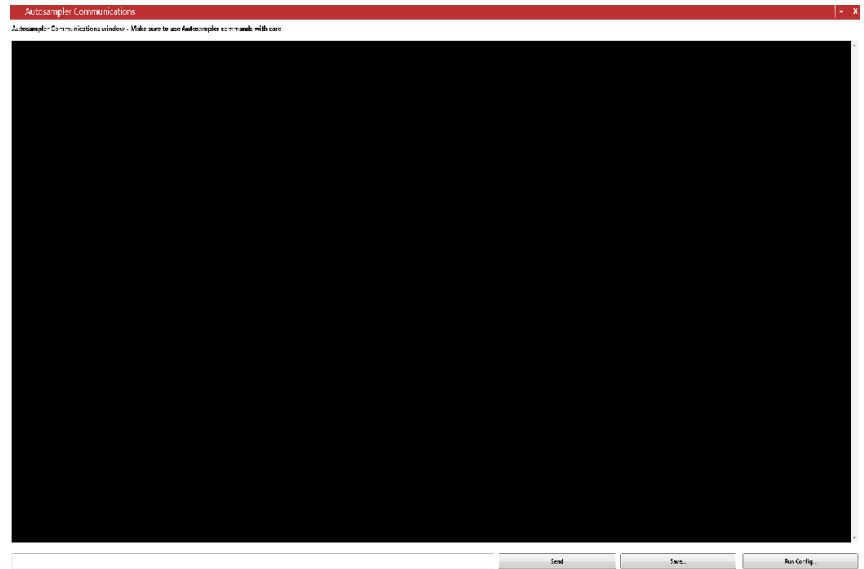
- Window opens up showing communication details with chosen device
- Data can be saved and sent to R&D for detailed evaluation.
- Hit stop and save and send file produced to Tekmar.
- Valco Valve shown as example



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Software

- Autosampler Comm Screen.
- Screen shot to the right is difficult to see because it takes up the entire screen



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Installation Completion

- Perform Installation Checklist items and fill out checklist and have customer sign.



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