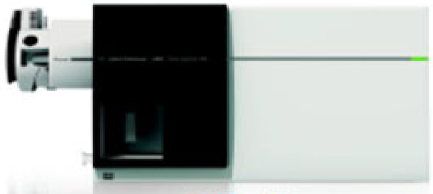
Shutdown Procedure for all Single Quads and Triple Quads



6490/95

6420/30/60

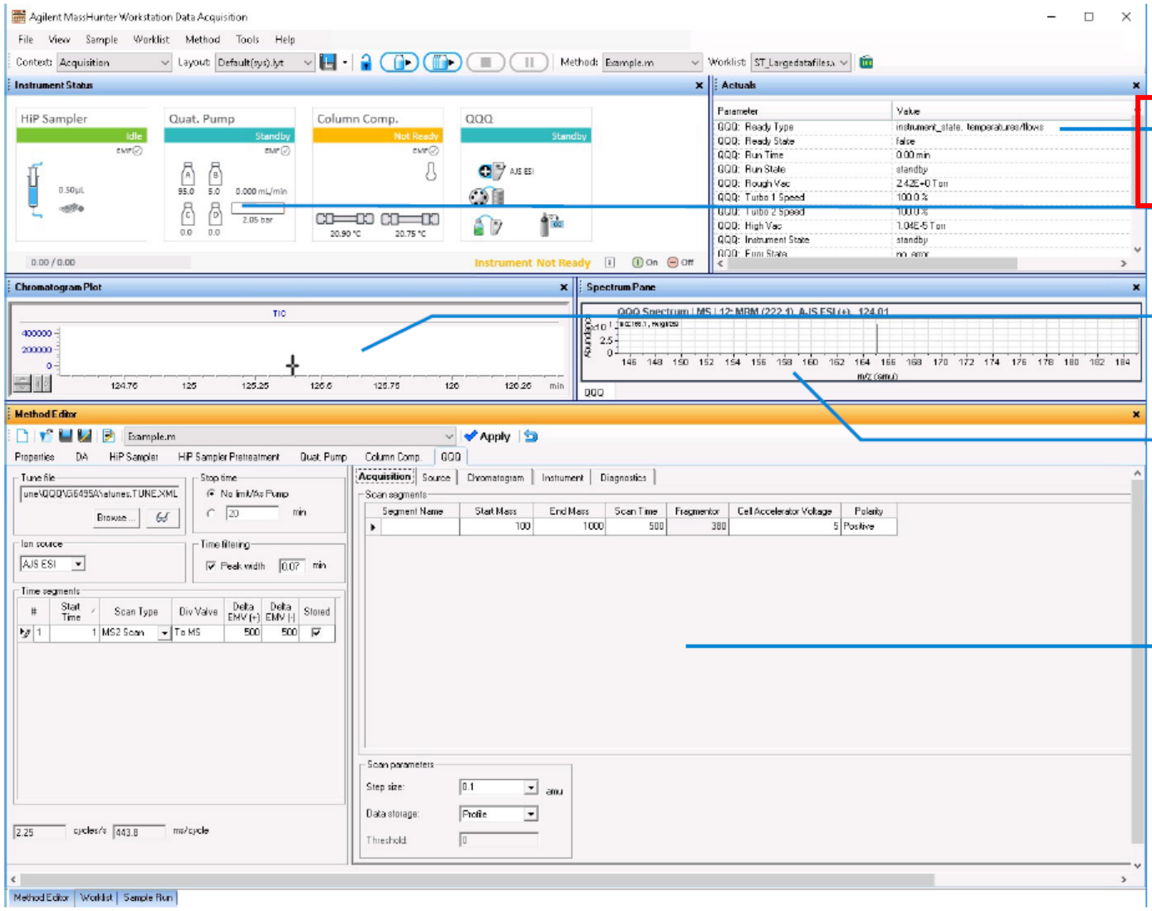
Agilent
Trusted Answers

Quick Shutdown of TQ & SQ running MassHunter or CS OpenLAB

Quick Shutdown (active time 3 min, total time 25 min)

- ✓ Click off
- ✓ Close ballast valve (if you have an Edwards rough pump)
- ✓ Click Vent
- ✓ Wait 20min
- ✓ Verify turbo speeds
- ✓ Turn off MS and LC modules
- ✓ Close gas supply lines to MS
- ✓ Unplug the MS power cord

Shutdown Procedure


Agilent MassHunter Workstation Data Acquisition
File View Sample Worklist Method Tools Help
Instrument Status
HiP Sampler Idle
Quat. Pump Standby
Column Comp. Not Ready
QQQ Standby
Instrument Not Ready
Chromatogram Plot
TIC
Spectrum Pane
QQQ Spectrum | MS | 12: MRM (222.1) AJS ESI (+), 124.01
Method Editor
Apply
Properties DA HiP Sampler HiP Sampler Pretreatment Quat. Pump Column Comp. QQQ
Acquisition Source Chromatogram Instrument Diagnostics
Method Editor Worklist Sample Run

Context: Acquisition
Layout: Default(sys).lyt
Method: Example.m
Worklist: ST_Largedatafiles.x

Actuals

Parameter	Value
QQQ: Ready Type	instrument_state, temperatures/flows
QQQ: Ready State	false
QQQ: Run Time	0.00 min
QQQ: Run State	standby
QQQ: Rough Vac	2.42E+0 Torr
QQQ: Turbo 1 Speed	100.0 %
QQQ: Turbo 2 Speed	100.0 %
QQQ: High Vac	1.04E-5 Torr
QQQ: Instrument State	standby
QQQ: Error State	no_error

Tune file: une\QQQ\G6495A\atunes.TUNE.XML
Stop time: ● No limit/As Pump ○ 20 min
Ion source: AJS ESI
Time filtering: ☑ Peak width 0.07 min

Time segments

#	Start Time	Scan Type	Div Valve	Delta EMV (+)	Delta EMV (-)	Stored
1	1	MS2 Scan	To MS	500	500	☑

Scan segments

Segment Name	Start Mass	End Mass	Scan Time	Fragmentor	Cell Accelerator Voltage	Polarity
	100	1000	500	380	5	Positive

Scan parameters
Step size: 0.1 amu
Data storage: Profile
Threshold: 0

2.25 cycles/s 443.8 ms/cycle

Actuals window

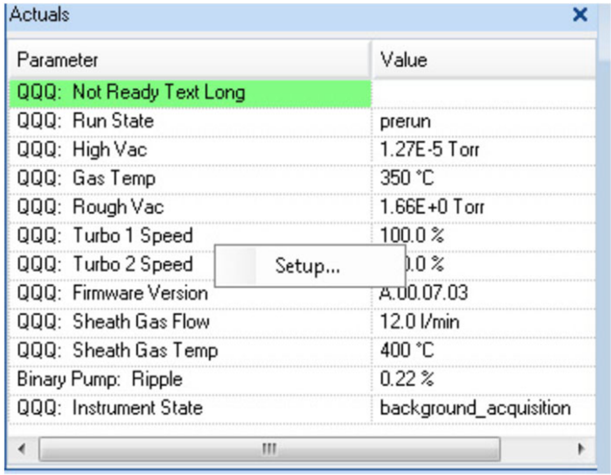
Instrument Status window

Chromatogram Plot window

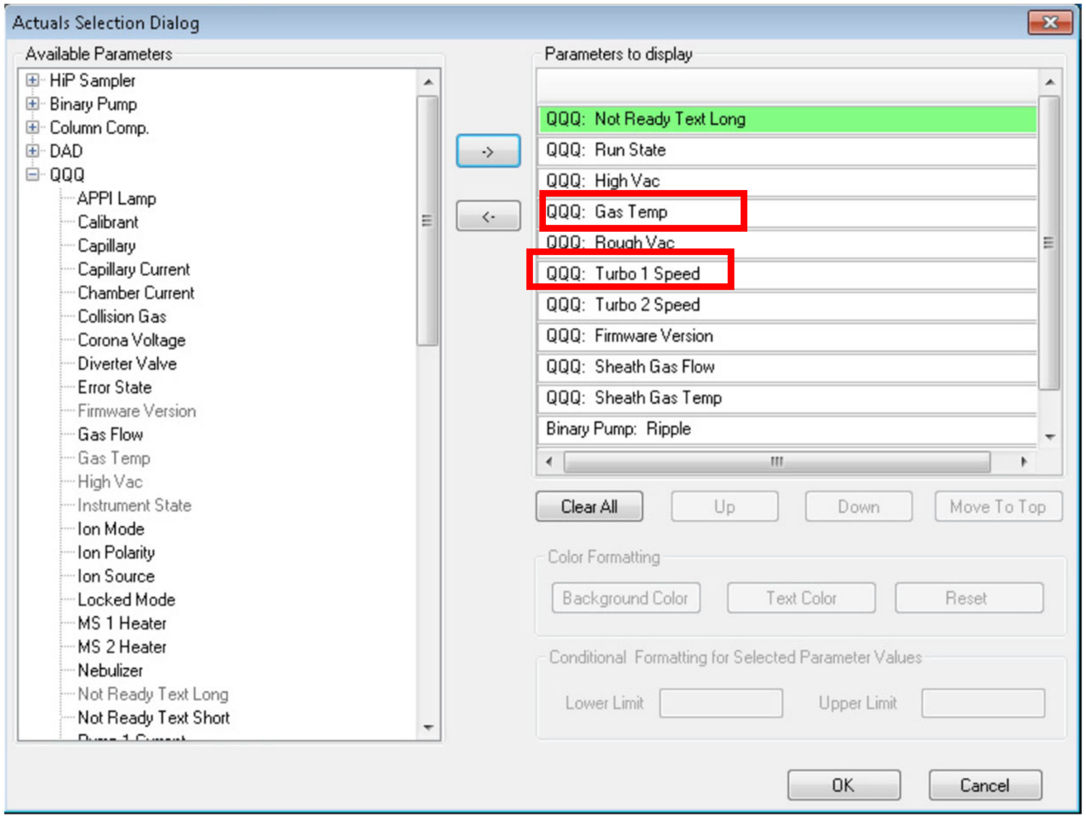
Spectrum Pane window

Method Editor window

Adding Vacuum parameters to Actuals panel


Actuals
Setup...

Parameter	Value
QQQ: Not Ready Text Long	
QQQ: Run State	prerun
QQQ: High Vac	1.27E-5 Torr
QQQ: Gas Temp	350 °C
QQQ: Rough Vac	1.66E+0 Torr
QQQ: Turbo 1 Speed	100.0 %
QQQ: Turbo 2 Speed	.0 %
QQQ: Firmware Version	A.00.07.03
QQQ: Sheath Gas Flow	12.0 l/min
QQQ: Sheath Gas Temp	400 °C
Binary Pump: Ripple	0.22 %
QQQ: Instrument State	background_acquisition


Actuals Selection Dialog
Available Parameters
Parameters to display
->
<-
Clear All
Up
Down
Move To Top
Color Formatting
Background Color
Text Color
Reset
Conditional Formatting for Selected Parameter Values
Lower Limit
Upper Limit
OK
Cancel

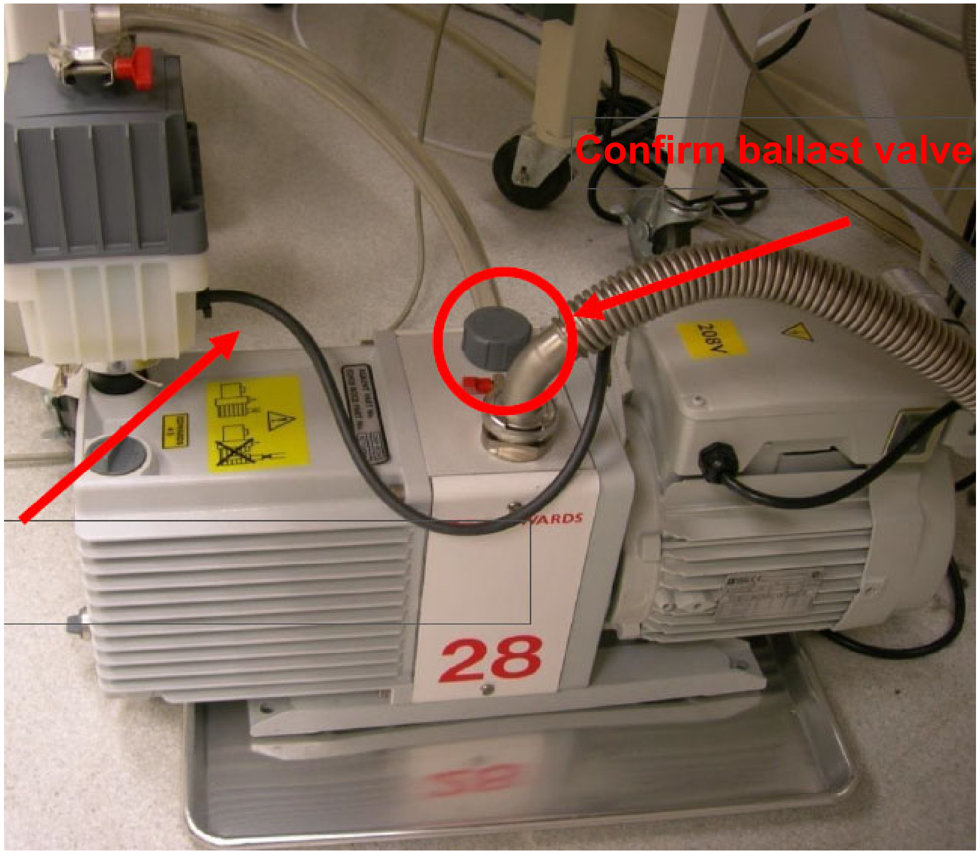
Available Parameters

- HiP Sampler
- Binary Pump
- Column Comp.
- DAD
- QQQ
  - APPI Lamp
  - Calibrant
  - Capillary
  - Capillary Current
  - Chamber Current
  - Collision Gas
  - Corona Voltage
  - Diverter Valve
  - Error State
  - Firmware Version
  - Gas Flow
  - Gas Temp
  - High Vac
  - Instrument State
  - Ion Mode
  - Ion Polarity
  - Ion Source
  - Locked Mode
  - MS 1 Heater
  - MS 2 Heater
  - Nebulizer
  - Not Ready Text Long
  - Not Ready Text Short

Parameters to display

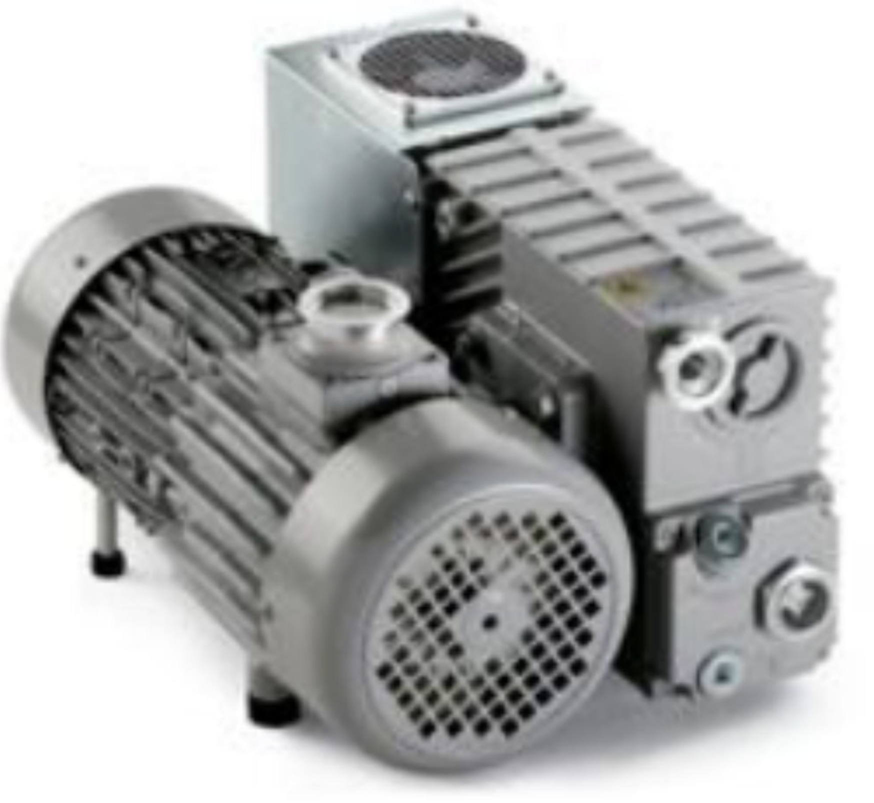
- QQQ: Not Ready Text Long
- QQQ: Run State
- QQQ: High Vac
- QQQ: Gas Temp
- QQQ: Rough Vac
- QQQ: Turbo 1 Speed
- QQQ: Turbo 2 Speed
- QQQ: Firmware Version
- QQQ: Sheath Gas Flow
- QQQ: Sheath Gas Temp
- Binary Pump: Ripple

Close Ballast valve (if you have an Edwards rough pump)

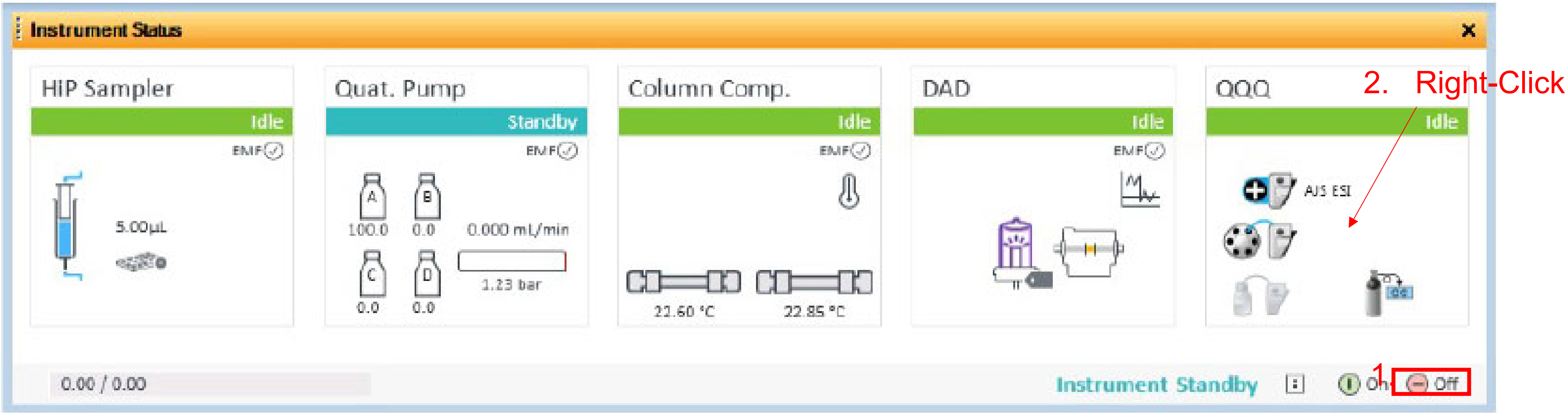

208V
28
WARDS

Confirm ballast valve is closed

MS40 pump (internally ballasted)



Click Off, Right click on QQQ



Instrument Status

HIP Sampler: Idle

5.00µL

Quat. Pump: Standby

A 100.0, B 0.0, C 0.0, D 0.0

0.000 mL/min

1.23 bar

Column Comp.: Idle

22.60 °C, 22.85 °C

DAD: Idle

QQQ: Idle

AJS ESI

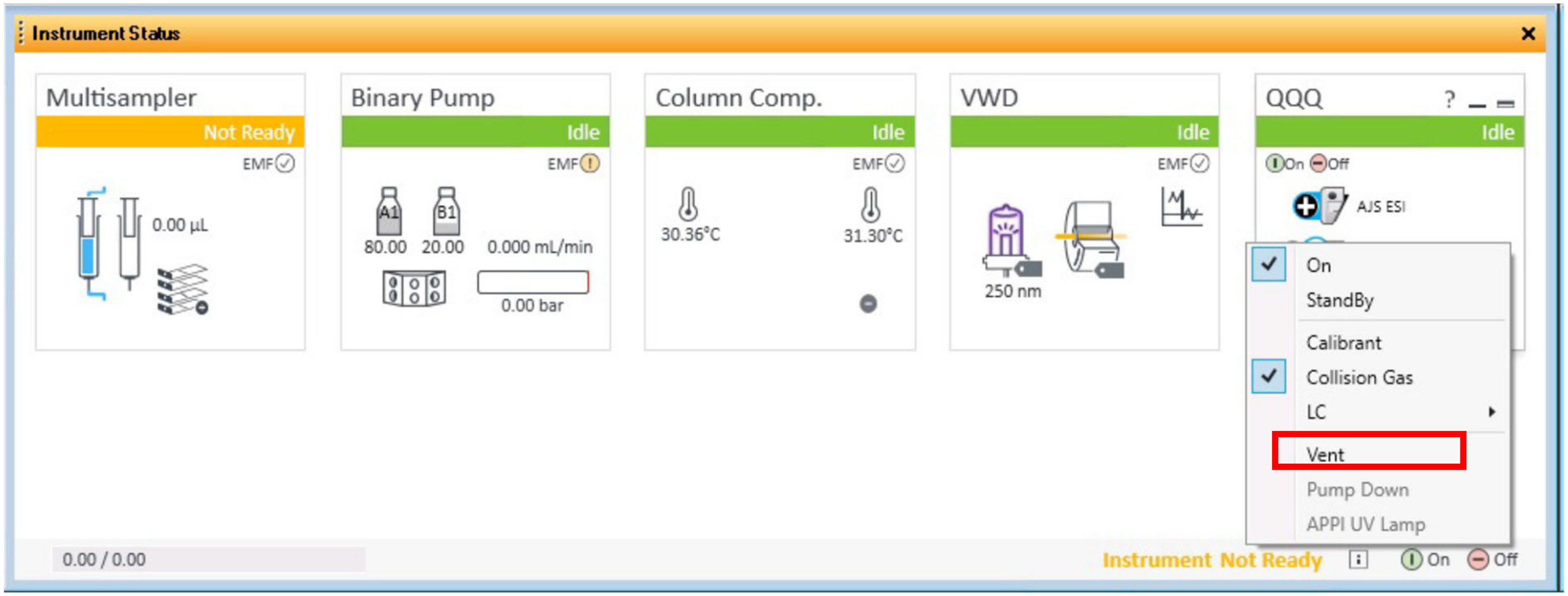
0.00 / 0.00

Instrument Standby

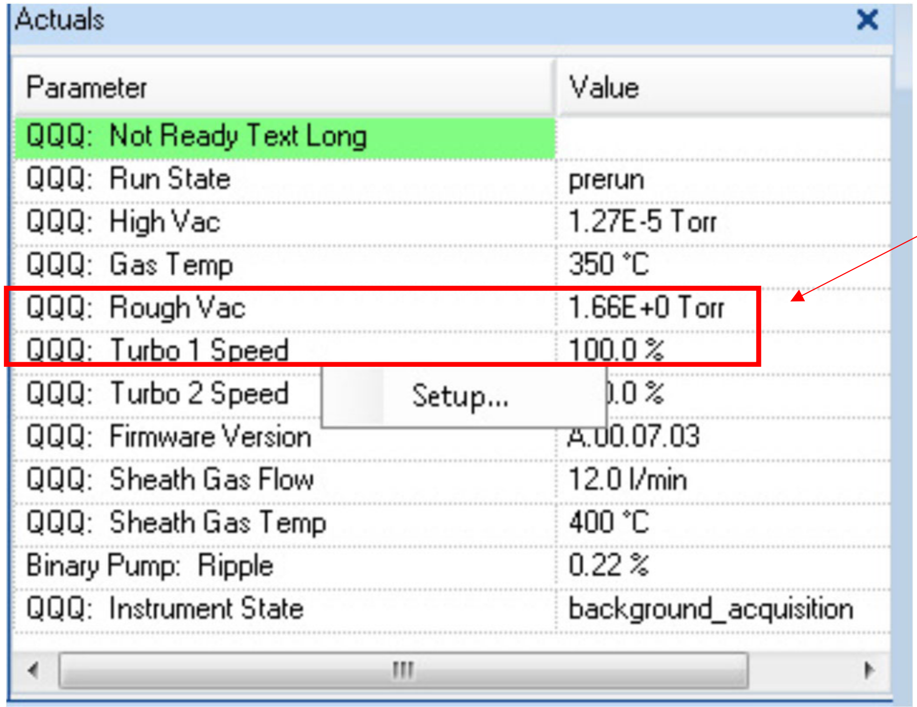
1.

2. Right-Click

Click Vent


Instrument Status
Multisampler
Not Ready
EMF
0.00 µL
Binary Pump
Idle
EMF
A1
B1
80.00
20.00
0.000 mL/min
0.00 bar
Column Comp.
Idle
EMF
30.36°C
31.30°C
VWD
Idle
EMF
250 nm
QQQ
Idle
On
Off
AJS ESI
On
StandBy
Calibrant
Collision Gas
LC
Vent
Pump Down
APPI UV Lamp
0.00 / 0.00
Instrument Not Ready
On
Off

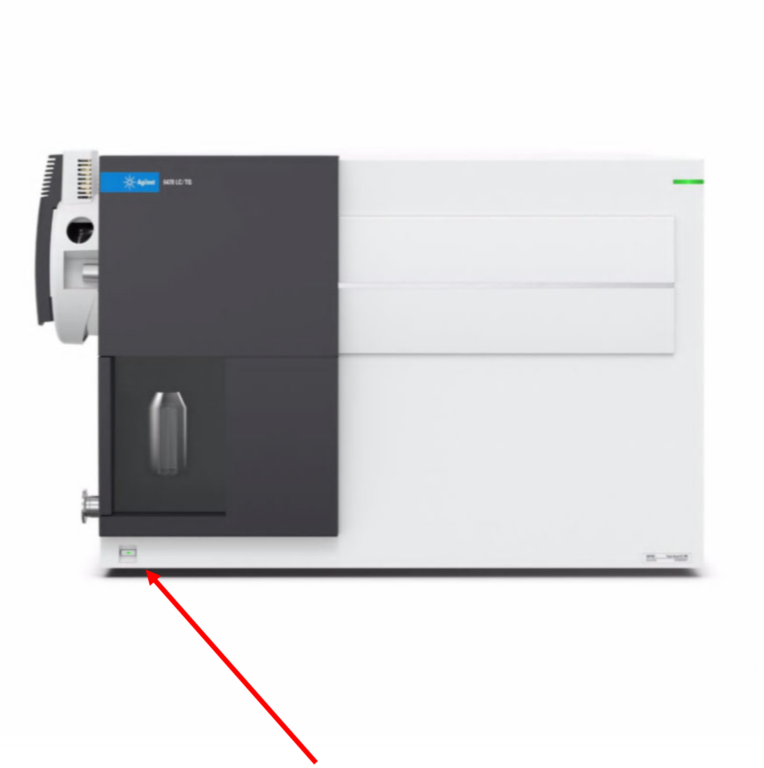
Wait 20 minutes– Verify venting



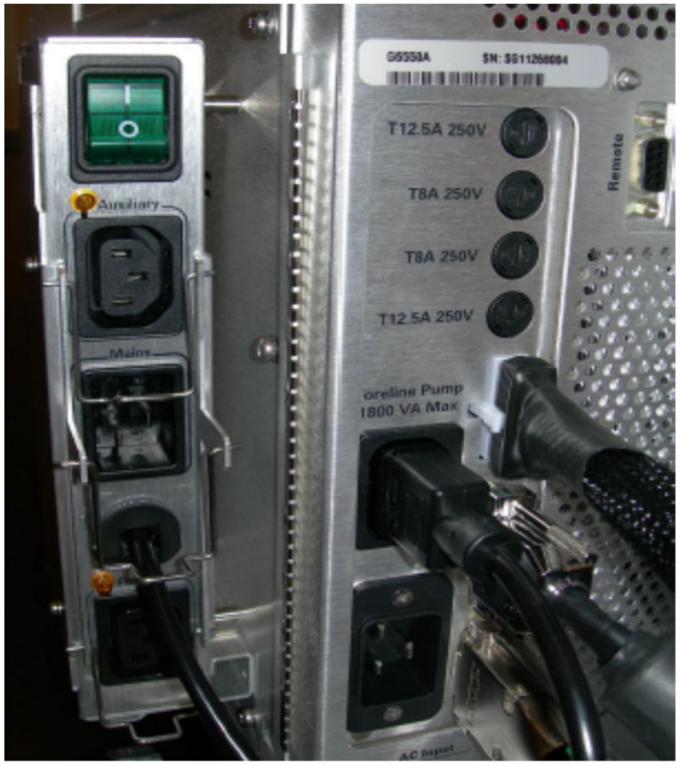
Parameter	Value
QQQ: Not Ready Text Long	
QQQ: Run State	prerun
QQQ: High Vac	1.27E-5 Torr
QQQ: Gas Temp	350 °C
QQQ: Rough Vac	1.66E+0 Torr
QQQ: Turbo 1 Speed	100.0 %
QQQ: Turbo 2 Speed	.0 %
QQQ: Firmware Version	A.00.07.03
QQQ: Sheath Gas Flow	12.0 l/min
QQQ: Sheath Gas Temp	400 °C
Binary Pump: Ripple	0.22 %
QQQ: Instrument State	background_acquisition

Rough Pump will turn off when Turbo 1 Speed is < 10%.

Turn off power after venting



1. Turn off Power Switch first


T12.5A 250V
T8A 250V
T8A 250V
T12.5A 250V
Auxiliary
Mains
oreline Pump
1800 VA Max
Remote
AC Input

2. Turn off Pump Expander box*

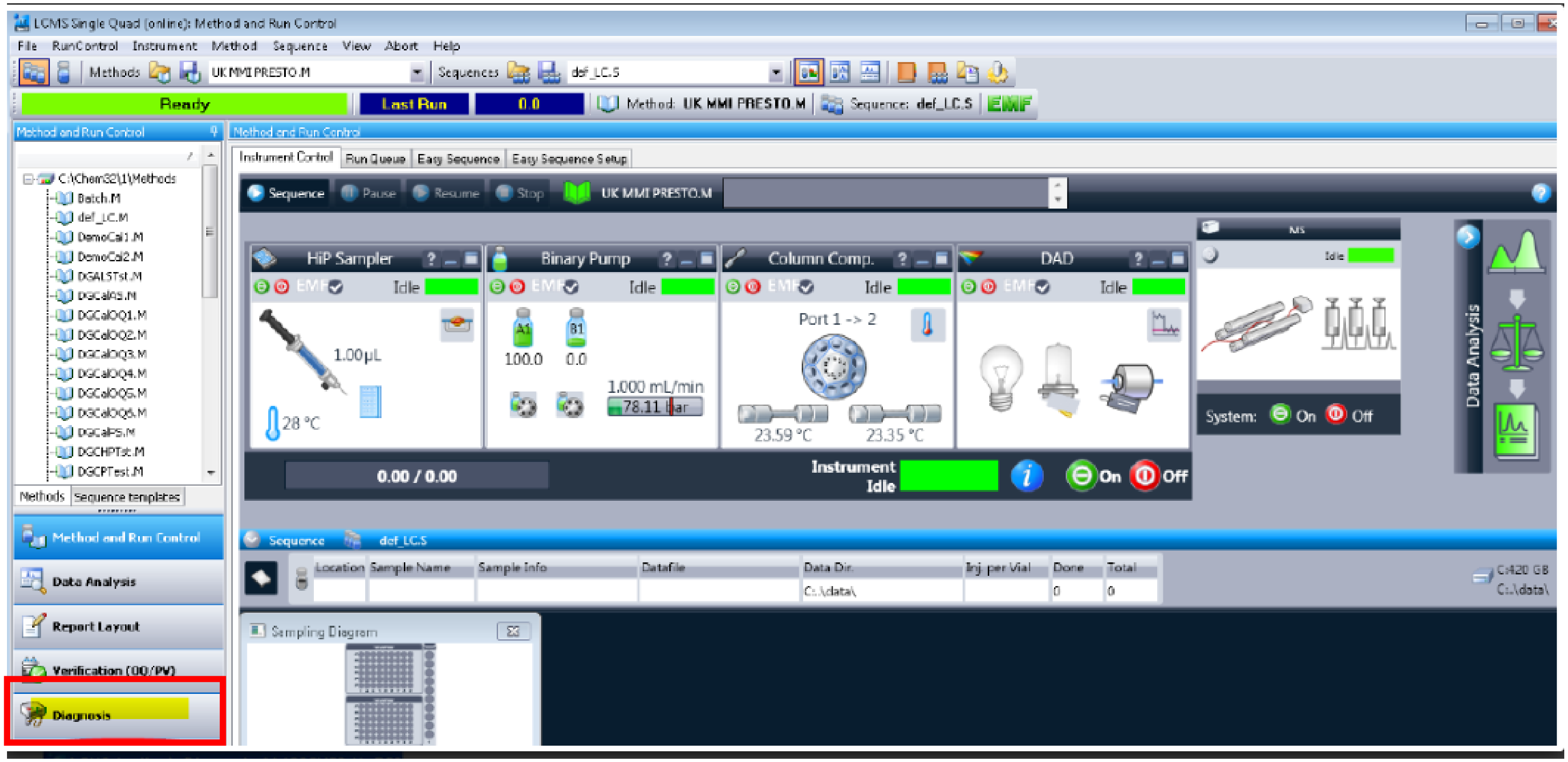
Installed on: 6420, 6460C, 6470, 6490, 6495

Quick Shutdown of SQ ChemStation Edition

Quick Shutdown (active time 3 min, total time 25 min)

- ✓ Click off
- ✓ Close ballast valve (if you have an Edwards rough pump)
- ✓ Click Diagnosis Tab
- ✓ Click Maintenance Tab
- ✓ Click Vent MSD (follow steps on the screen)
- ✓ Turn off MS and LC modules
- ✓ Close gas supply lines to MS
- ✓ Unplug the MS power cord

Vent- Diagnosis Menu- ChemStation


LCMS Single Quad (online): Method and Run Control
File
RunControl
Instrument
Method
Sequence
View
Abort
Help
Methods
Sequences
Ready
Last Run
Method and Run Control
Instrument Control
Run Queue
Easy Sequence
Easy Sequence Setup
Sequence
Pause
Resume
Stop
HiP Sampler
Binary Pump
Column Comp.
DAD
MS
Data Analysis
Methods
Sequence templates
Method and Run Control
Data Analysis
Report Layout
Verification (OQ/PV)
Diagnosis
Sampling Diagram

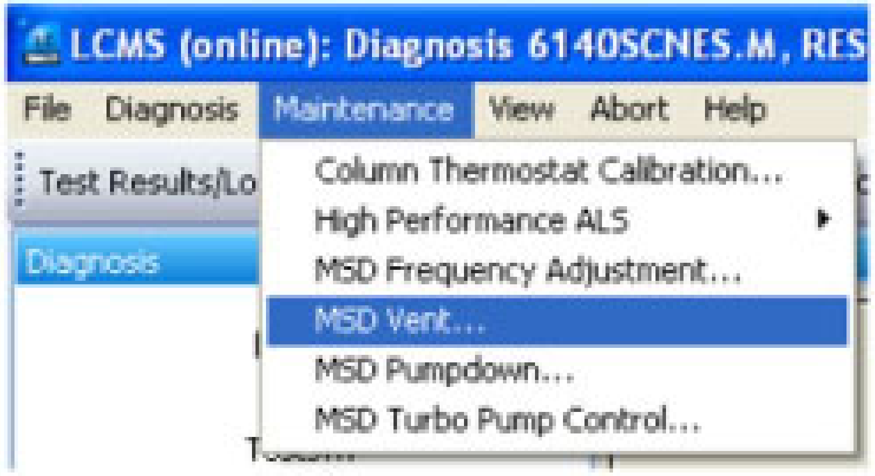
Method: UK MMI PRESTO.M

Sequence: def_LC.S

C:\Chem32\1\Methods

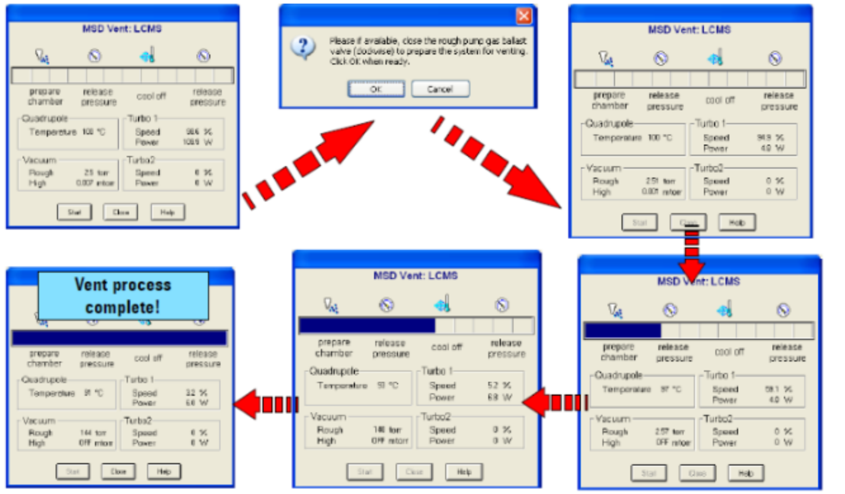
Location	Sample Name	Sample Info	Datafile	Data Dir.	Inj. per Vial	Done	Total
				C:\data\		0	0

Vent- Maintenance tab


LCMS (online): Diagnosis 6140SCNES.M, RES
File
Diagnosis
Maintenance
View
Abort
Help
Test Results/Lo
Diagnosis
Column Thermostat Calibration...
High Performance ALS
MSD Frequency Adjustment...
MSD Vent...
MSD Pumpdown...
MSD Turbo Pump Control...

Vent

Vent


MSD Vent: LCMS
prepare chamber
release pressure
cool off
release pressure
Quadrupole
Temperature
Turbo 1
Speed
Power
Vacuum
Rough
High
Turbo2
Speed
Power
Start
Close
Help
OK
Cancel

Please if available, close the rough pump gas ballast valve (clockwise) to prepare the system for venting. Click OK when ready.

Vent process complete!