

Getting the Most From Your Agilent HPLC Pump

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Columns and Supplies Technical Support

January 14, 2025



Overview

- Pump overview
 - High pressure vs. low pressure mixing
 - Delay or dwell volume
- Selecting a column for your pump
- Mobile phase
 - Housekeeping
 - Daily/weekly tasks
 - Seal wash
 - Flushing for buffers, acetonitrile, warm water
 - Normal phase and GPC
- Purging vs conditioning vs priming
- Pump shutdown
- Pump benchmarking
 - Restriction capillary
 - InfinityLab Performance Standard
- Points of maintenance
- How-to videos on maintenance
 - YouTube
 - Agilent Community
- Lab Advisor
- Infinity III Assist Hub

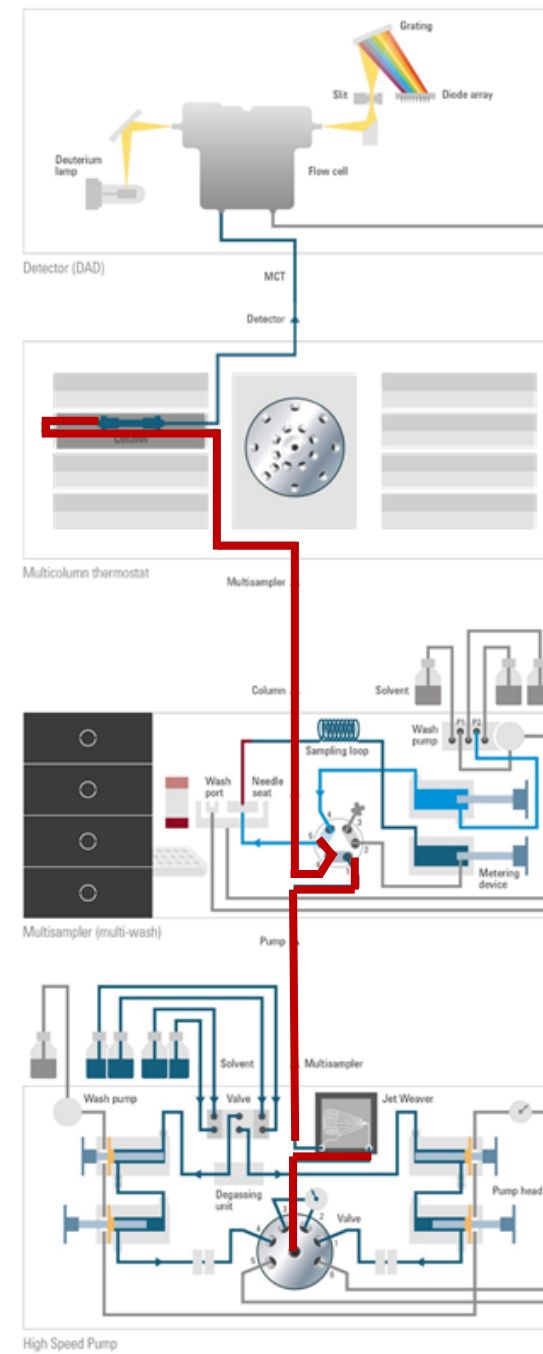


System Considerations

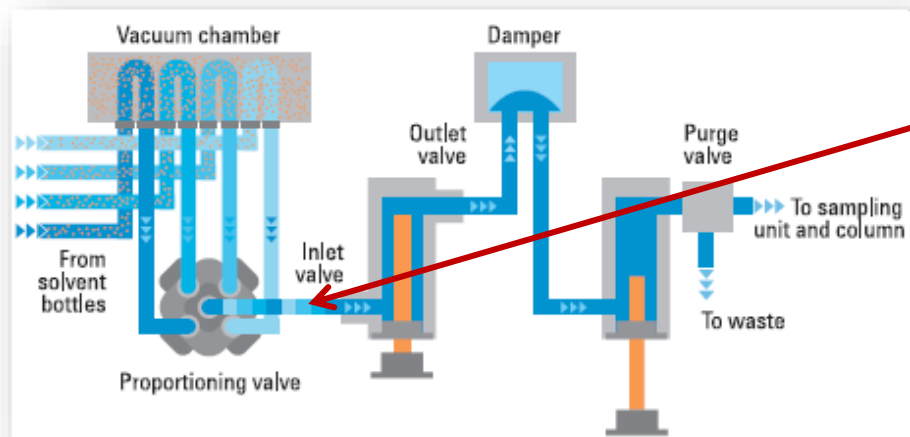
Dwell or Delay Volume: System volume from the formation of the gradient to the top of the column

Can affect:

- Retention time
- Resolution
- Peak width

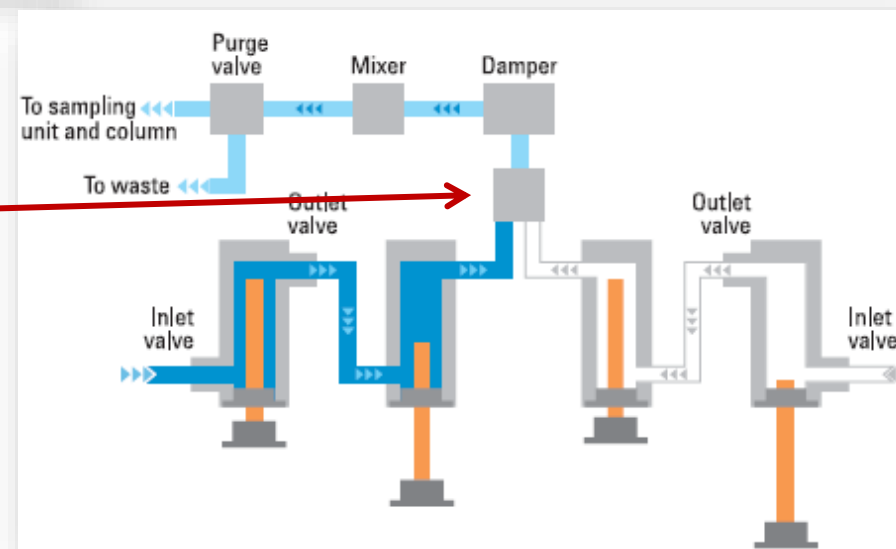


High Pressure Mixing vs Low Pressure Mixing

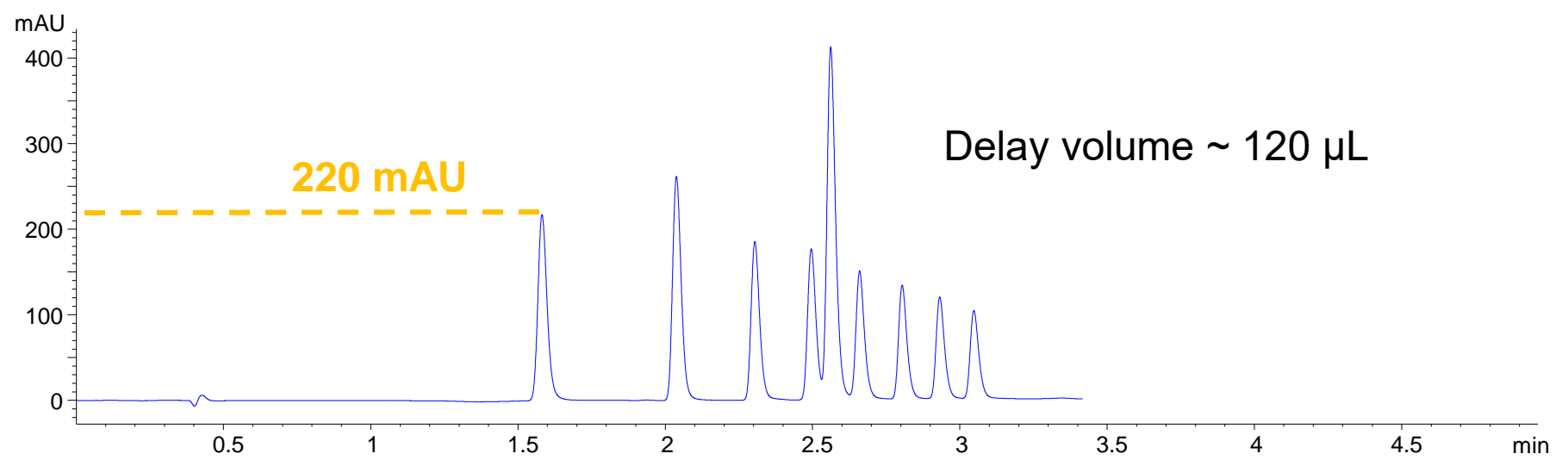
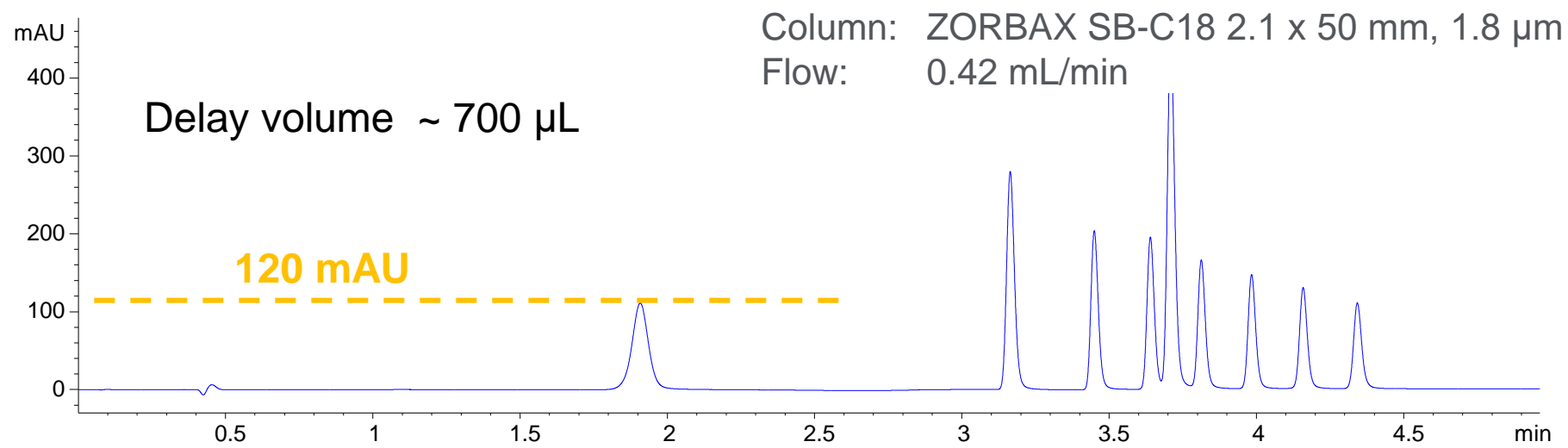


- Point of mobile phase mixing **before** pump head
- Quaternary Pumps
- Flexible Pumps

- Point of mobile phase mixing **after** pump head
- Binary Pumps
- High Speed Pumps



Delay Volume



Column Type Particle	Traditional HPLC 3–5 µm	UHPLC 2.7 µm (SPP) / < 2 µm (FPP)				Low Dispersion UHPLC < 2 µm			
Recommended product (Max pressure/bar)	1. 4 µm Poroshell (600) 2. 3.5 and 5 µm ZORBAX (400) 3. 3 and 5 µm Pursuit, Polaris (400)	1. 2.7 µm Poroshell (600) 2. 1.8 µm ZORBAX RRHT (600)				1. 1.9 µm Poroshell (1300) 2. 1.8 µm ZORBAX RRHD (1200)			
Column length (mm)	50–300	Short: 30–50		Long: 100–150		Short: 30–50		Long: 100–150	
Column id (mm)	3.0–4.6	2.1	3.0–4.6	2.1	3.0–4.6	2.1	3.0	2.1	3.0
1300 bar Low Dispersion UHPLC – High Speed Pump (1290 Infinity II/III)	H/I								
1300 bar Low Dispersion UHPLC – Flexible Pump (1290 Infinity II/III)	H/I					V			
800 bar UHPLC – Quaternary Pump (1260 Infinity II/III Prime)	H/I					V		P	P
600 bar UHPLC – Binary Pump (1260 Infinity II)		V				V+P	V+P	V+P	P
600 bar UHPLC – Quaternary Pump (1260/1220 Infinity II)		V	V	V		V+P	V+P	V+P	V+P
400 bar HPLC (1100, 1260/1220 Infinity II VL)		V	V	V+P	P	V+P	V+P	V+P	V+P

400 bar = 6000 psi
600 bar = 9000 psi
1200 bar = 17000 psi
1300 bar = 19000 psi

Limitations

V – System volume (dispersion/delay)
P – Pressure limits
V+P – System volume and pressure
H/I – if instrument is used for HPLC methods / ISET emulation

Recommended

Acceptable

Limited Configurations

Not Recommended

Solvent Bottles and Solvent Inlet Filters



InfinityLab LC Filtration

- 5191-6776: InfinityLab Solvent Filtration Assembly, Including Glass Funnel, 250 mL, Membrane Holder Glass Base, Glass Flask, 1 L, and Aluminum Clamp
- 5191-4340: InfinityLab Filter Membrane, Regenerated Cellulose 47 mm, Pore Size 0.2 μm , 100/pk

Filter buffer and salt solutions

- Filter porosity: 0.45 or 0.2 μm
- Make sure the filter material is compatible

Inlet filters – not a replacement for good mobile phase hygiene

- Glass solvent inlet filter (20 μm), 5041-2168
- Stainless steel solvent inlet filter (recommended for LC/MS), 01018-60025



Lack of maintenance can lead to problems

- A dirty solvent inlet frit can cause cavitation. The “bubbles” formed can lead to pump issues.
- Mobile phase with microbial growth can cause high pressure and ghost peaks.
- Replace glass filter or clean steel filter semi-annually.

InfinityLab Stay Safe Caps

- Prevent harmful vapors from leaving the solvent bottle.
- Reduce evaporation and mobile phase changes.
- Time strip is a reminder to replace the venting valve.

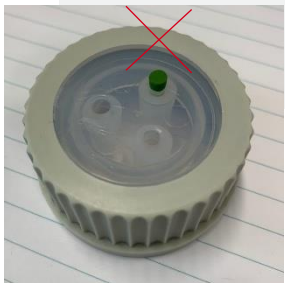
Venting valve

Filter membrane
Stops contaminants and dust from entering your solvent.

One-way valve
Prevents hazardous vapors and gases from leaving the solvent container.



Stay Safe Caps guide: 5994-1798EN



1 port: 5043-1217
2 port: 5043-1218



Degasser Care



- Check for bubbles in outlet lines
- Flush out buffer salts with water when changing mobile phases
- When switching solvents, make sure they are miscible
- Do not leave aqueous mobile phase in the degasser for an extended time - avoid microbial growth
- Unused channels should be flushed with water to remove any buffers, leave in water/isopropanol

Best Practices for Handling Mobile Phases

- Use clean borosilicate glass bottles only.
- Rinse bottle with desired solvent before refilling it.
- Bottles can get contaminated with detergents from a dishwasher.
- Exchange water-based solvents daily.
- Prepare solvent volume to be consumed within 1 to 2 days.
- Use only HPLC-grade solvents and water.
- Prepared organic solvents and aqueous buffers must be 0.2 μm filtered.
- Label bottles correctly with bottle content (filling date and expiry date).
- Reduce risk of algae growth:
 - Brown bottles for aqueous solvents.
 - Avoid direct sunlight.
 - Wrap the bottles in aluminum foil.

Extra measures with acetonitrile (ACN):

- ACN and other organic solvents can be filtered using a 0.2 μm PTFE filter membrane (e.g. 5191-4339).
- Use brown bottles and fill with only what will be used within 1 to 2 days to reduce degradation.



Daily and Weekly Tasks

Daily Tasks

- Replace solvents and solvent bottles for mobile phases based on water/buffer.
- Replace solvents and solvent bottles for organic mobile phase every second day.
- Check seal wash solvent.
- Purge each channel with fresh solvent at 2.5 – 3 mL/min for 5 min before operation.

Weekly Tasks

- Change seal wash solvent (10 % isopropanol in water) and bottle.
- If applications with salts were used, flush with water.
- Inspect solvent filters for dirt or blockages.
- Exchange if no flow is coming out of the solvent line when disconnected at the degasser inlet.

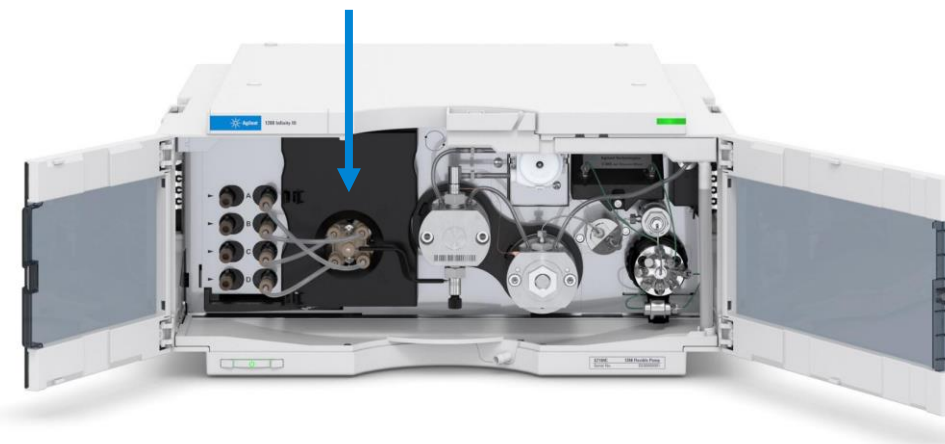


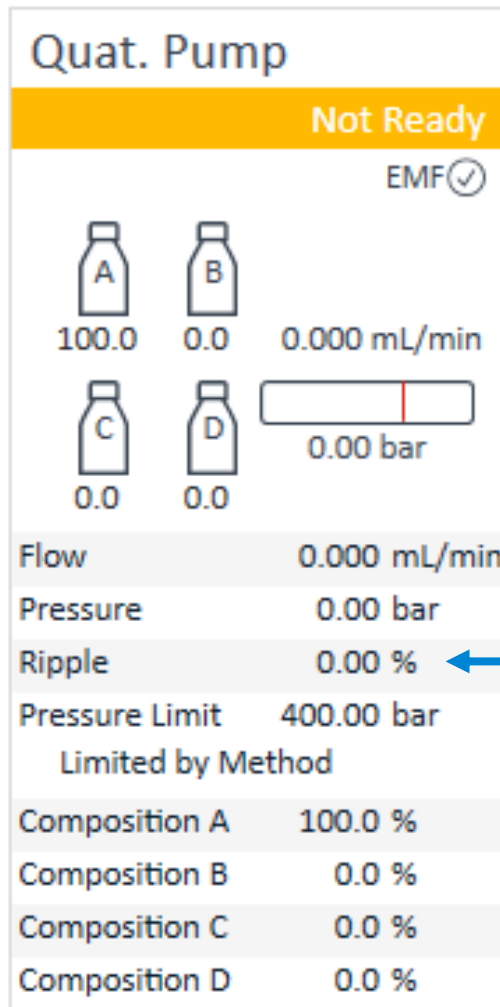
5067-6131

Caring for the Gradient Valve

Recommendations for Multi Channel Gradient Valve (MCGV).

- Use lower channels (A and/or D) for buffer solutions.
- To remove possible salt deposits, flush with water at 5 mL/min for at least 10 min per channel.
- Check compatibility of buffers and organic solvents to avoid precipitation in the MCGV mixing chamber.



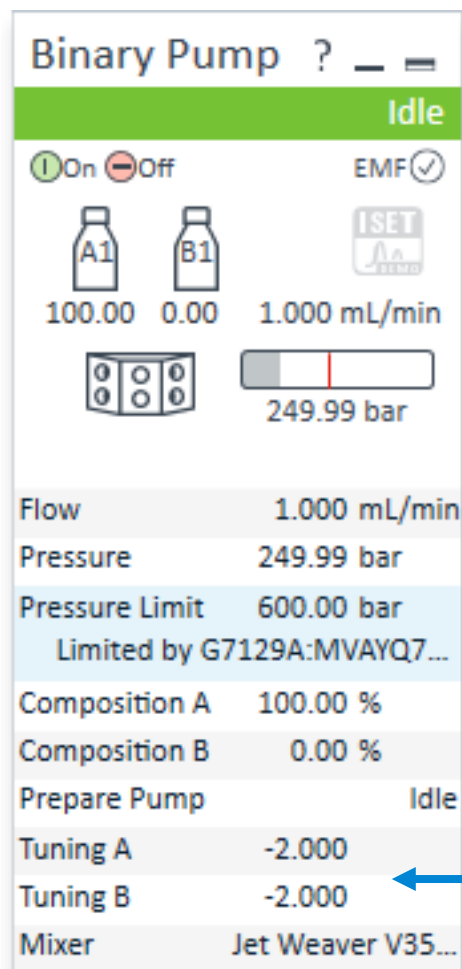


Always keep an eye on your system pressure

- 1100, 1200, 1260 models have Ripple value
- Pressure ripple (fluctuations or delta) is a measure of pump performance
- Usually less than 2% (often much better) when the system is equilibrated.

Excessive ripple is indicative of a problem.

- Leaks in the system allowing air
- Solvent compressibility problems
- Immiscible solvents



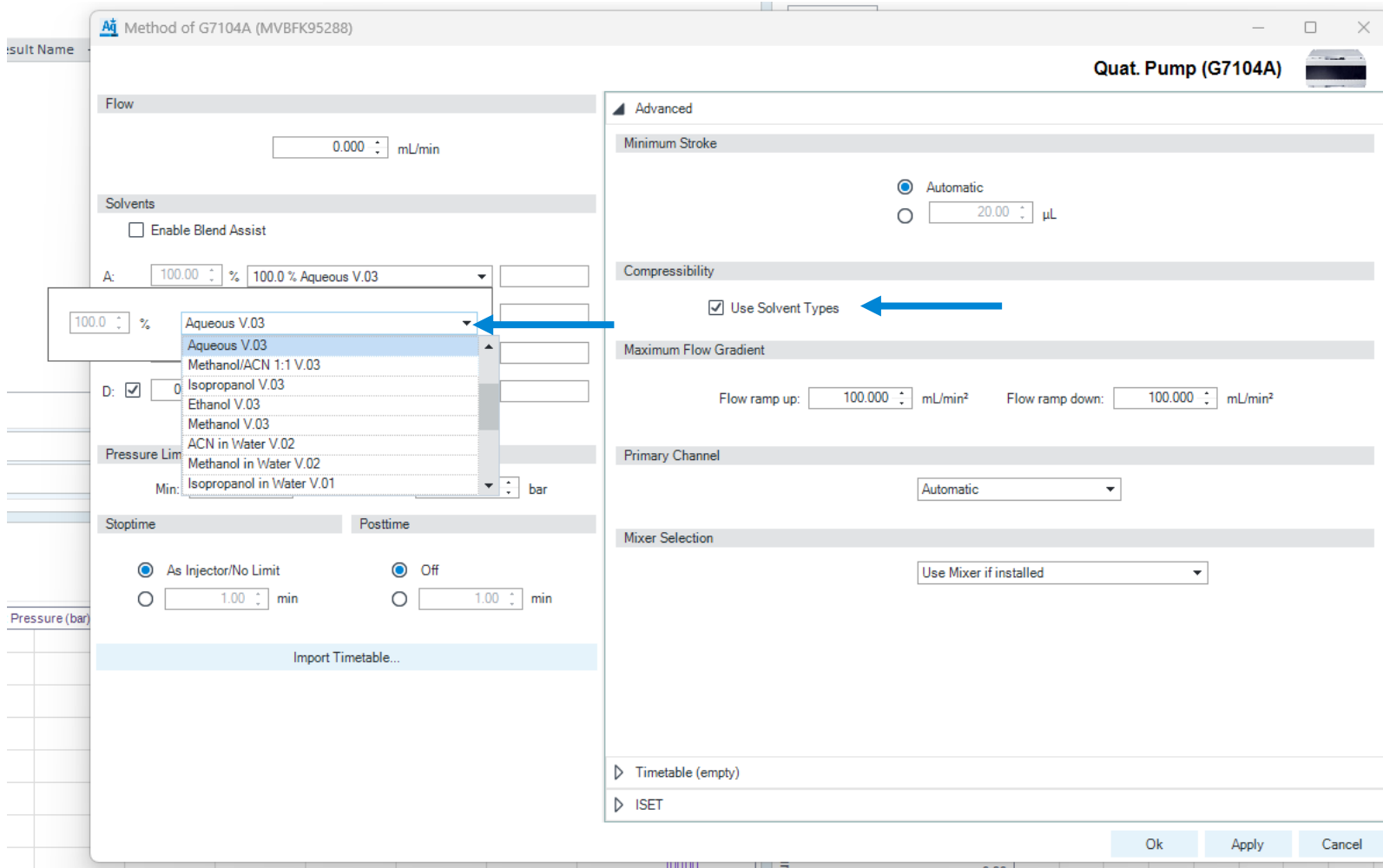
For certain pumps (1290), these have a Tuning value

- For pumps operating as expected, value should be -1 to $+1$.
- The full scale is -2 to $+2$.
- Ideal performance is at 0 .

Possible causes for Tuning deviations:

- Gas bubbles
- Suboptimal compressibility settings
- Leaks in seals or fittings
- Problems with the valves
- Blockage of filters or capillaries

Compressibility



- For best flow accuracy and mixing performance, select the mobile phase being used.
- Select this check box (recommended) to use the automatic compressibility calibration.
- Then select the calibrated solvent from the drop-down list.

Compressibility

Method of G7104A (MVBK95288)

Quat. Pump (G7104A)

Flow: 0.000 mL/min

Solvents

A: 100.00 %

B: ☒ 0.00 %

C: ☒ 0.00 %

D: ☒ 0.00 %

Pressure Limits

Min: 0.00 bar Max: 1,300.00 bar

Stoptime Posttime

☒ As Injector/No Limit ☒ Off

☐ 1.00 min ☐ 1.00 min

Import Timetable...

Advanced

Minimum Stroke

☒ Automatic ☐ 20.00 µL

Compressibility

☐ Use Solvent Types

☒ 44.3 $\times 10^{-6}$ / bar ☐ No compensation

Maximum Flow Gradient

Flow ramp up: 100.000 mL/min² Flow ramp down: 100.000 mL/min²

Primary Channel

Automatic

Mixer Selection

Use Mixer if installed

Timetable (empty)

ISET

Ok Apply Cancel

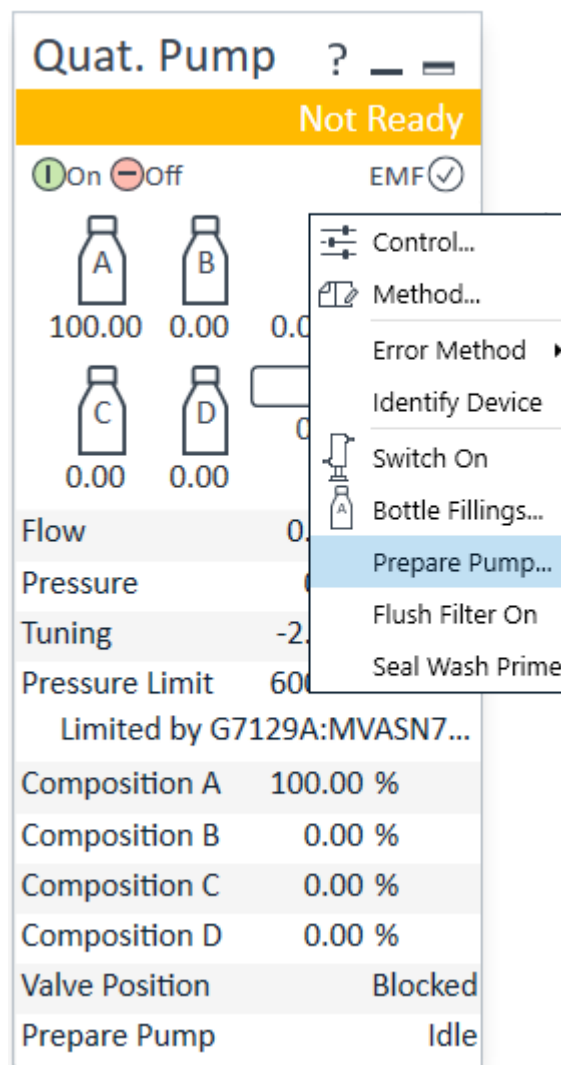
- Clear this check box to enter manual compressibility values.
- This setting is available for method backward compatibility, e.g. from 1260 Infinity pumps.

Manual Purging



- To install a fresh or different mobile phase
- Open the manual purge valve
- Do not unscrew completely
- Purge each channel with 2.5 to 3 mL/min for ~5 min

Purge vs Conditioning vs Prime



For 1290 Infinity and 1290 Infinity II Pumps

- Agilent 1290 Infinity and 1290 Infinity II Pumps are equipped with automatic purge valves.
- Prepare Pump
- Additional functions not available with manual purge valve.
- Purge, Condition, or Prime with the software

CAUTION when filling empty solvent lines

- Potential for damage to the pump seals
- Use a syringe or the Purge function to fill empty solvent lines.
- Do not use the Prime procedure to fill empty solvent lines.

Purge vs Conditioning vs Prime

The screenshot shows the 'Prepare Pump' dialog box with three main sections: Purge, Conditioning, and Prime. The Purge section is selected with a radio button. It includes a description: 'Use for changing mobile phases, drawing solvent or for removing air bubbles.' and settings for Duration (1.00 min), Flow (0.000 mL/min), and Composition A (100.00 %), B (0.00 %), C (0.00 %), and D (0.00 %). The Conditioning section is unselected and includes a note: 'Minimize the pressure ripple by dissolving air bubbles in the pump heads. Note: Solvents will flow through the LC system and column. Method parameters are applied for flow rate, composition and max. pressure.' with a Duration of 0.33 min. The Prime section is also unselected and includes a description: 'Draws solvent into (both) pump heads for removing air bubbles from the pump head and particles from valves. Flow goes to waste. Do not use the Prime function for filling the solvent lines or changing the solvent type.' At the bottom are 'Start', 'Cancel', and 'Help' buttons.

Purge

Use for changing mobile phases, drawing solvent or for removing air bubbles.

Duration: 1.00 min Composition A: 100.00 %

Flow: 0.000 mL/min Composition B: 0.00 %

Composition C: 0.00 %

Composition D: 0.00 %

Conditioning

Minimize the pressure ripple by dissolving air bubbles in the pump heads.

Note: Solvents will flow through the LC system and column. Method parameters are applied for flow rate, composition and max. pressure.

Duration: 0.33 min

Prime

Draws solvent into (both) pump heads for removing air bubbles from the pump head and particles from valves. Flow goes to waste.

Do not use the Prime function for filling the solvent lines or changing the solvent type.

Start Cancel Help

Purge

Use the Purge function to:

- Fill the system with fresh or different solvent.
- Ensure that the new solvent is miscible with the previous solvent.
- Prevent damage to the degasser or pump by using an intermediate step with a commiscible solvent, if necessary.
- Remove air bubbles in tubing and pump heads.
- After the pump has been idle for a few hours or more (air may be in the solvent lines).
- As soon as the purge procedure ends the module automatically switches to analytical conditions again.

Purge vs Conditioning vs Prime

Prepare Pump

Purge

Use for changing mobile phases, drawing solvent or for removing air bubbles.

Duration:

1.00

min

Composition A:

100.00

%

Flow:

0.000

mL/min

Composition B:

0.00

%

Composition C:

0.00

%

Composition D:

0.00

%

Conditioning

Minimize the pressure ripple by dissolving air bubbles in the pump heads.

i

Note: Solvents will flow through the LC system and column.
Method parameters are applied for flow rate, composition and max. pressure.

Duration:

0.33

min

Prime

Draws solvent into (both) pump heads for removing air bubbles from the pump head and particles from valves. Flow goes to waste.

Do not use the Prime function for filling the solvent lines or changing the solvent type.

Start

Cancel

Help

Condition

If micro air bubbles persist in the pump head, the overall pump performance may be compromised, and flow accuracy/precision may be negatively affected. This may be indicated by pressure ripple and/or detector baseline ripple.

- Often indicated by a negative but slowly increasing tuning signal value (below -1).
- To remove the bubbles, the Condition function can be used.
- During conditioning, the pump is delivering flow into the system (column) and the last used method settings, like flow, composition and max pressure are used.

Use a reasonable flow rate (for example 1.5 mL/min), composition setting (for example A: 50% B: 50%) and backpressure (>200 bar) to ensure efficient air bubble removal from all pump heads.

Conditioning may be necessary:

- After a long period of standby
- After running out of solvent
- After service or repair

Purge vs Conditioning vs Prime

Prepare Pump

Purge

Use for changing mobile phases, drawing solvent or for removing air bubbles.

Duration: 1.00 min Composition A: 100.00 %
Flow: 0.000 mL/min Composition B: 0.00 %
Composition C: 0.00 %
Composition D: 0.00 %

Conditioning

Minimize the pressure ripple by dissolving air bubbles in the pump heads.

Note: Solvents will flow through the LC system and column. Method parameters are applied for flow rate, composition and max. pressure.

Duration: 0.33 min

Prime

Draws solvent into (both) pump heads for removing air bubbles from the pump head and particles from valves. Flow goes to waste.

Do not use the Prime function for filling the solvent lines or changing the solvent type.

Start Cancel Help

Prime

The Prime function is helpful if:

- Air has entered the pump heads.
- Not removed by conditioning for 15 minutes.
- The module draws solvent at a high speed with all pump drives simultaneously and dispenses it into the waste position of the automatic purge valve.
- This is done 20 times (stress on the valve and rotor seal).
- Should be performed only as a last resort.
- Before filling the pump heads with a syringe or attempting to repair the pump heads.
- Can also be used to free a potentially stuck valve.

Check Your Instrument Pressure

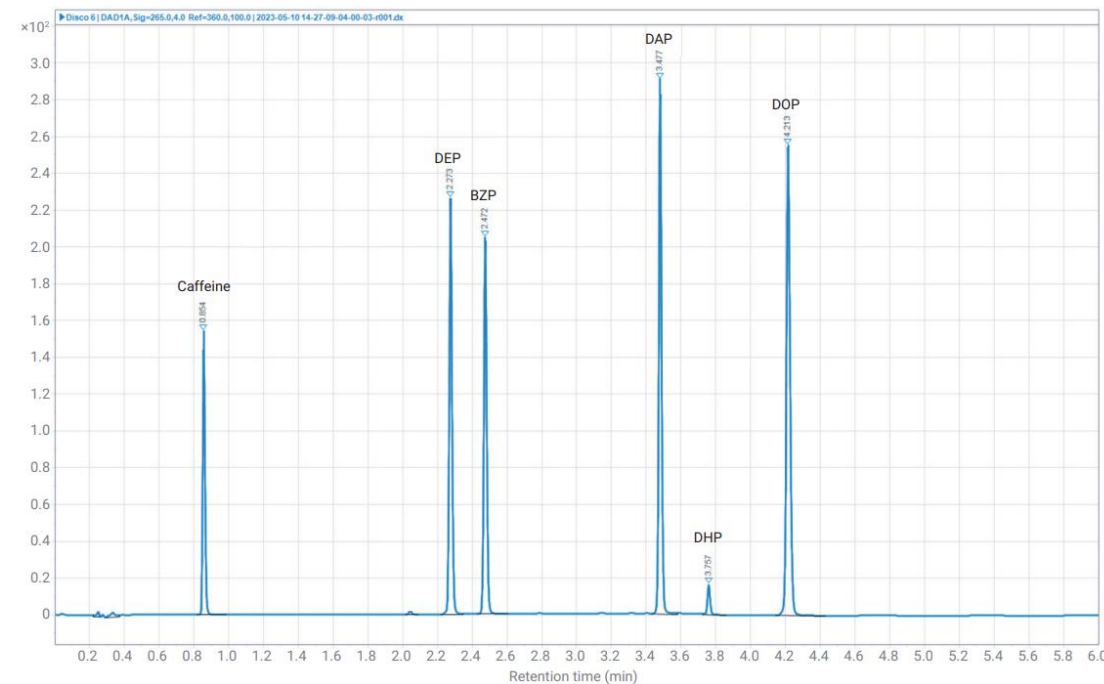
- Before installing your column, test your instrument pressure with no column
- Install a restriction capillary (part number 5022-2159)
- Measure the system pressure under desired conditions
- Check the system pressure using just a union



ZDV universal union, 5022-2184



InfinityLab Performance Standard



InfinityLab LC Performance Standard, 5191-4547
InfinityLab Poroshell 120 EC-C18 3.0 × 50 mm, 2.7 μm, 699975-302

Flow Rate 1 mL/min
Column Temperature 40 °C
Mobile Phase A: water with 0.1% formic acid
Mobile Phase B1: acetonitrile with 0.1% formic acid
Mobile Phase B2: methanol with 0.1% formic acid
Injection Volume 3 μL
5% B at 0 min
95% B at 3 min
95% B at 4.5 min
5% B at 5 min

5994-6584EN

Pump Setting for Pressure Sensitive Columns

Method of G7104A (DEBA300770)

Quat. Pump (G7104A)

Flow: 1.000 mL/min

Solvents

☐ Enable Blend Assist

A: 90.00 % 100.0 % Water V.03

B: ☒ 10.00 % 100.0 % Acetonitrile V.03

C: ☐ 0.00 % 100.0 % Acetonitrile V.03

D: ☐ 0.00 % 100.0 % Water V.03

Pressure Limits

Min: 0.00 bar Max: 1,300.00 bar

Stoptime Posttime

☐ As Injector/No Limit ☐ Off

☒ 3.00 min ☒ 1.50 min

Advanced

Minimum Stroke

☒ Automatic ☐ 20.00 µL

Compressibility

☒ Use Solvent Types

Maximum Flow Gradient

Flow ramp up: 100.000 mL/min² Flow ramp down: 100.000 mL/min²

Primary Channel

Automatic

Mixer Selection

Use Mixer if installed

Timetable (1/100 events)

ISET

Ok Apply Cancel

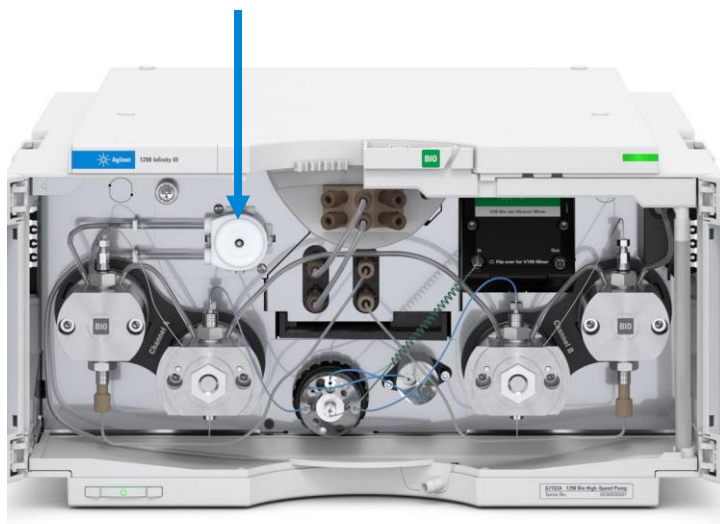
Slow down for pressure sensitive columns, e.g.,
0.1 mL/min²

Special Considerations for 1290 Infinity Pumps



- Reliable operation during analysis cannot be guaranteed if pressure falls below 20 bar.
- For optimal results, pressure should be at least 50 bar continuously.
- When using columns that create low backpressure (<50 bar, such as SEC or Hi-Plex columns), install a restriction capillary (such as 5022-2159, steel or 5005-0046, MP35N) between the pump and sampler to achieve at least 50 bar.

Seal Wash



Seal Wash helps ensure optimal piston seal life. Highly concentrated buffer solutions can reduce the lifetime of the seals and pistons in your pump.

Use Seal Wash:

- Buffers with elevated salt concentrations (e.g. 0.1 M or higher)
- When using volatile solvents with a non-volatile additive
- If you have Seal Wash installed it is mandatory to use it
- Flushes the back side of the seal with a wash solvent.
- Uses a wash bottle filled with 90% water/10% isopropanol.
- Above the pump in the solvent cabinet.
- Seal wash waste into the waste bottle underneath.
- Peristaltic pump moves a flow through the pump head.

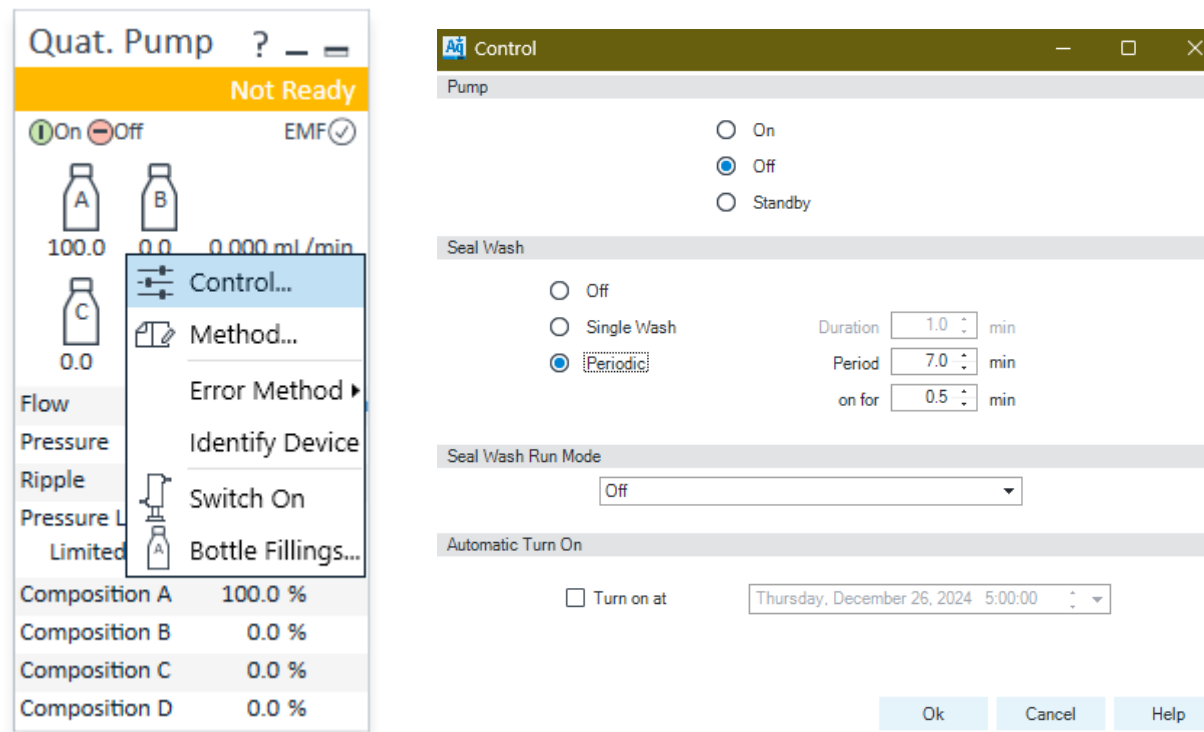
Caution:

- Do not recycle seal wash solvent (damage to piston seals).
- Exchange seal wash solvent weekly.
- Typical solvent consumption: 0.5 L per week.
- Use of Seal Wash Bottle Head Kit (5067-6131) is strongly recommended.



5067-6131

Seal Wash






Seal Wash operation:

- In the Pump Control menu option.
- Recommended interval is 30 seconds on, every 7 min.
- Typical solvent usage is about 0.5 L per week.
- Use 10% isopropanol in water.
- Position wash solvent bottle above and waste bottle below instrument.
- Do not refill the seal wash solvent, always use properly cleaned, fresh bottles.
- Do not recycle seal wash solvent bottles.

InfinityLab Stay Safe Purging Bottle



Bottle 5043-1339
Or kit with caps 5043-1340

 Avoid harmful solvent vapor	Traditional purging process →	Purging with InfinityLab Stay Safe purging bottle
	Solvent vapors can leach into laboratory air because the solvent bottle is either open or just covered with parafilm or aluminum foil.	No leaching of harmful solvent vapors into the air. Closing caps seal off mobile phase bottles during purging.
 Ease-of-handling	All solvent channels with bulky solvent filters run through the narrow GL45 bottle opening. Solvent filters can fall off when pulling the solvent tubing out of the bottle.	Solvent lines can be easily put into or pulled out of the bottle, with no risk of losing solvent filters.
 Prevent air in LC lines	Solvent lines and bottle caps hang loosely. Filters can slide out of the solvent leading to suction of air into the LC.	Solvent lines are securely attached, preventing suction of air into the LC.

Flushing

When using salt-containing mobile phases:

- Perform at least once a week, or prior a long standby or off time.
- When switching from salt-containing mobile phase to reversed phase or high organic.
- Flush the column with recommended storage solvent.
- Replace the column with a union.
- Replace the salt-containing solvent bottle with a new bottle of HPLC-grade water.
- Clean the bottle head assembly using lint-free wipes.
- Purge each pump channel for at least 10 min at 5 mL/min.
- Flush the entire system flow path with water for at least 10 min at 2 mL/min.
- During this step, switch the injection valve and the column selection valve (if installed) position every 1 min, and repeat this until every position has been selected for at least 5 times.
- Replace water with fresh solvent bottles to minimize salt carryover.



Working with Acetonitrile

Acetonitrile (ACN) is a solvent that is frequently used in reversed-phase chromatography but can be a source of issues if not handled correctly. As acetonitrile ages/polymerizes, residues can get stuck on internal pump surfaces causing issues with valve performance (affecting retention time precision).

When using acetonitrile:

- Use high-quality solvents
- Use fresh solvents and filter them (not older than 48 to 72 h).
- Filter ACN using a 0.45 or 0.2 μm nylon filter depending on initial solvent quality (unless you use High Sensitivity LC/MS).
- Minimize exposure to light and air/oxygen.
- Choose the appropriate bottle size (amber).
- Use the amount that will be needed, including in-between-run time, plus a 20 to 30% allowance
- Acids accelerate solvent aging (refresh solvents more frequently.)
- Pure acetonitrile ages faster.
- If the application allows, mix with 5 to 10% HPLC grade water.
- Do not leave an unused system in acetonitrile.
- At least once per month, perform a warm water (60 to 70 $^{\circ}\text{C}$, HPLC grade) flush at 2 mL/min for 20 to 30 min, to get rid of ACN reaction products.



LC-MS: 5191-5101
LC-UV: 5191-5100

Agilent InfinityLab solvents guide: 5994-6607EN

Normal Phase and GPC

- Normal phase applications on Agilent Infinity pumps require yellow PE piston seals.
- By default, 1290 Infinity, 1290 Infinity II/III, and 1260 Infinity II/III Flexible Pumps use ceramic pistons and yellow PE seals.
- But 1260 Infinity I/II/III pumps use sapphire pistons and black PTFE piston seals by default.
- Black PTFE seals with normal phase applications will wear faster and generate small particles.
- For normal phase applications (hexane/heptane) on 1260 Infinity I/II/III pumps, use yellow PE seals.
- GPC applications using THF should use the black reversed phase seals and standard inlet and outlet valves.

Recommended valves for normal phase applications (type N)

	Binary or High-Speed Pumps (G4220A/B, G7120A)	Quaternary or Flexible Pumps (G4204A, G7104A/C)	1100/1200/1260 (400 and 600 bar)
Inlet Valve	G4220-60122	G4204-60122	G1312-60166
Outlet Valve	G4220-60128	G4220-60128	G1312-60167

Caution:

- Normal phase valves corrode quickly in aqueous solutions and acids (at or below pH 7).
- Do not use normal phase valves in methods with aqueous mobile phases.



Using Normal Phase and Unstable Solvents

- Whenever possible, use stabilizers, e.g. butylated hydroxytoluene (BHT) for ethyl ether and THF.
- Use isopropanol (IPA) to flush out the previous solvent when converting a system. from normal phase to reverse phase, or vice versa.
- Store all unused channels in IPA.
- Don't turn off the pump while it is filled with solvents with low boiling points.
- Leave a low flow throughout the used channels when the pump is not in use.



9301-6525

Shutting Down the Pump



- Install a union or a restriction capillary and flush the system extensively with water, especially after using buffers.
- Flush with isopropanol if using normal phase solvents.
- Flush and store the system in 50% methanol or 50% isopropanol in water, without additives.

Instrument Supplies

Model Numbers



G####A/B/C/D



Maintenance points on pumps

- PTFE frits that trap pump seal wear (semiannually)
- Pump seals (annually)
- Inlet valve
- Outlet valve

Lack of maintenance can lead to:

- Pressure fluctuations
- Shifting retention time
- UV baseline problems



PTFE frits

Part number: 01018-22707



Outlet valve



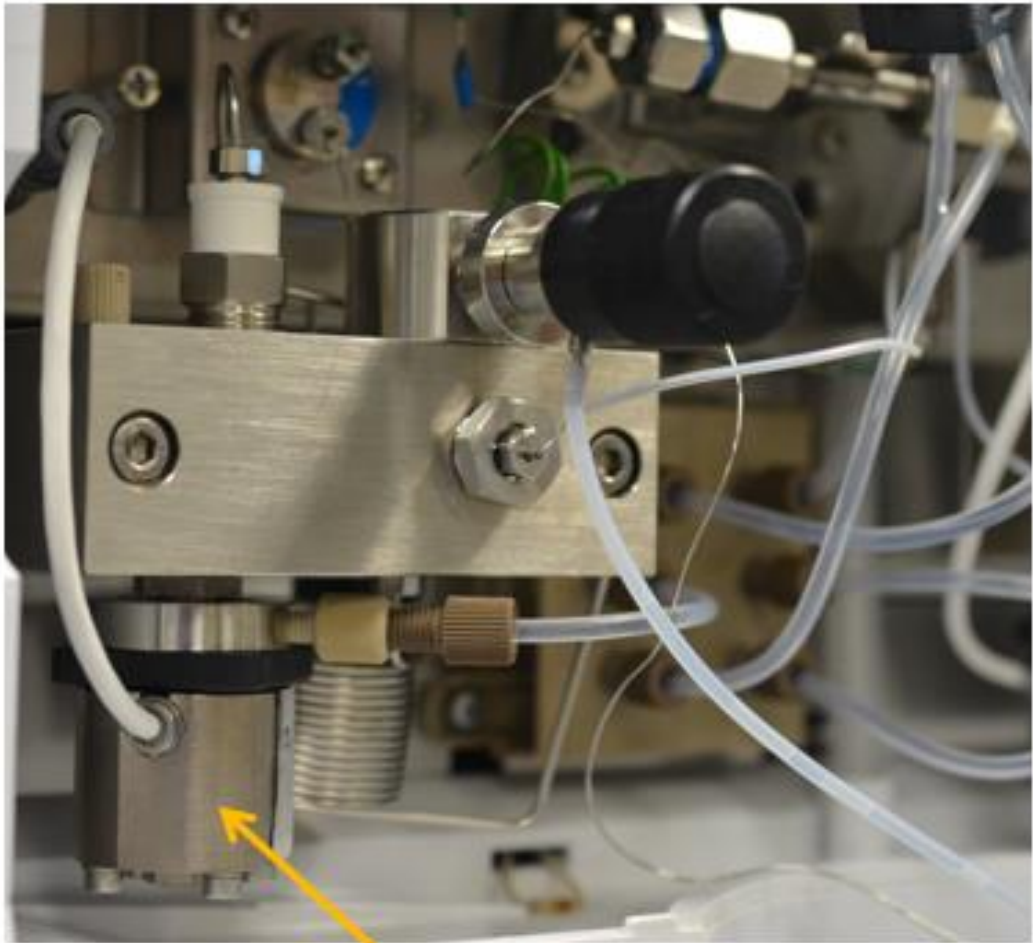
Passive inlet valve:
Better for retention
time reproducibility

or



Active inlet valve:
Better for
robustness with
buffered mobile
phases

Pump – Inlet Valve

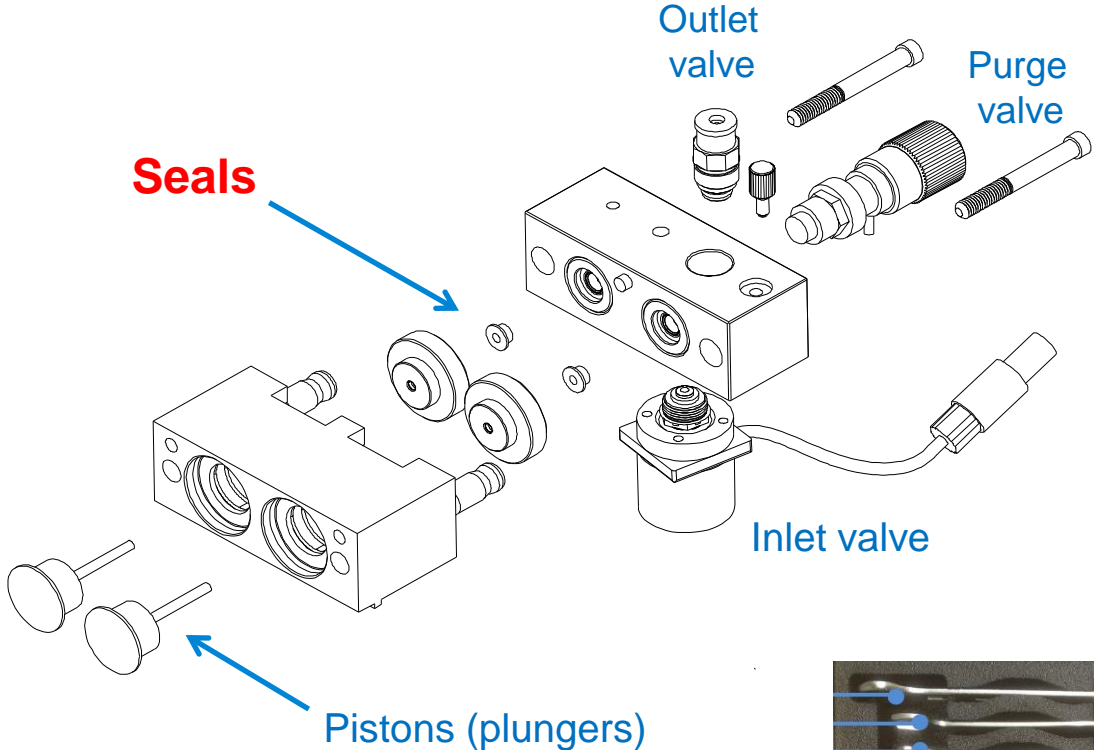


Active inlet valve



14 mm wrench

Pump Head



5063-6589, PTFE (reversed-phase)



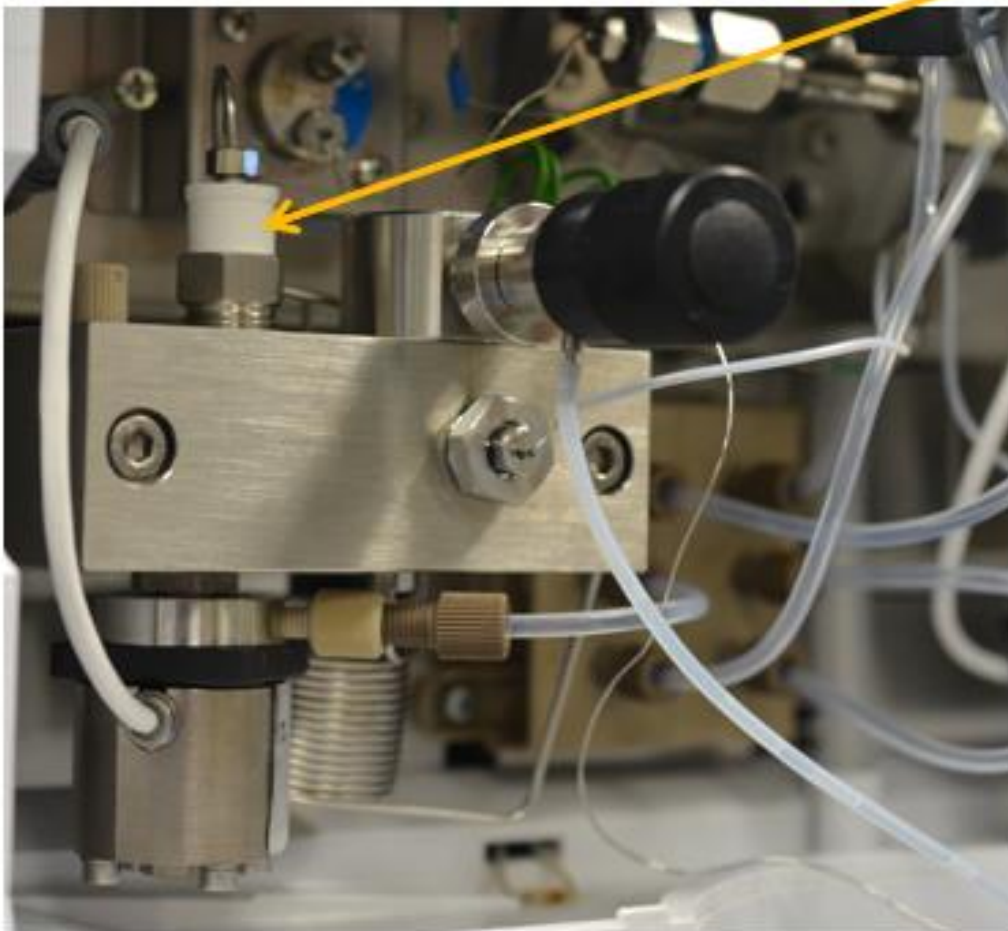
0905-1420, polyethylene (normal phase)

0905-1719, 1290/high speed/flexible pump



Tool kit
G7120-68708

Pump – Outlet Valve



14 mm wrench

8710-1924

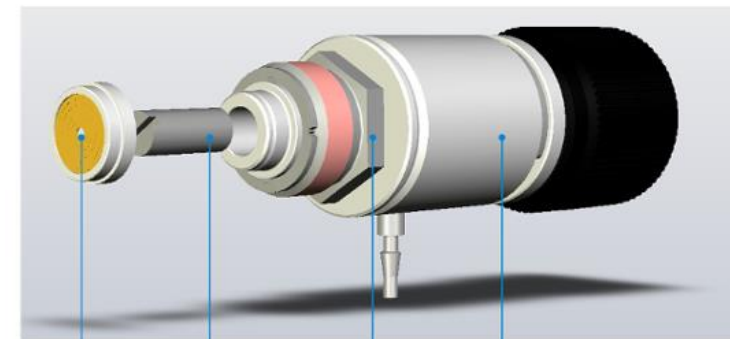
Pump – Purge Valve



- A dirty frit is a source of high pressure
- A pressure drop of >10 bar across the frit (5 mL/min water with the purge valve open) could indicate a blockage
- Change it after changing pump seals



14 mm wrench



Seal Cap

PTFE
Frit

Nut

Purge Valve
body



Seal cap

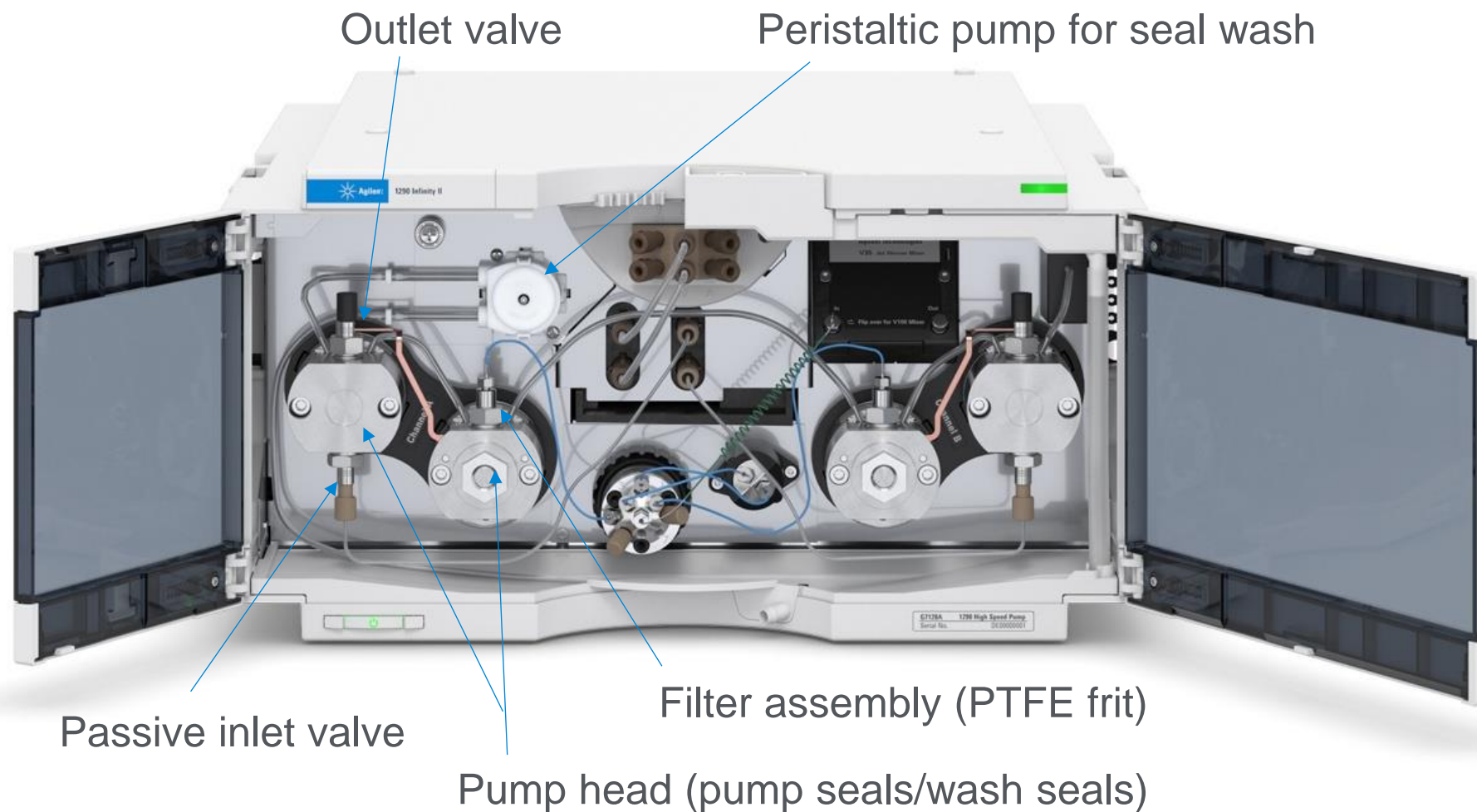
5067-4728



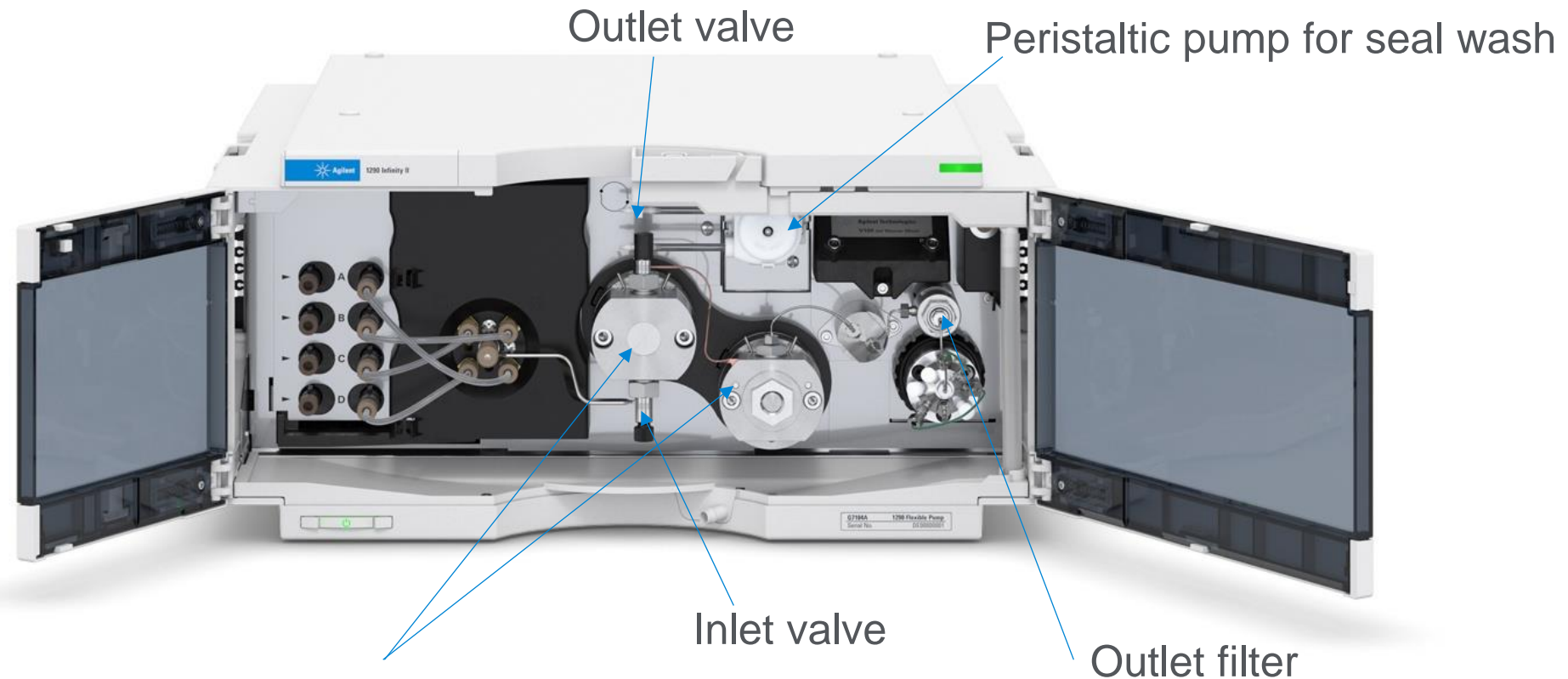
PTFE frits

01018-22707

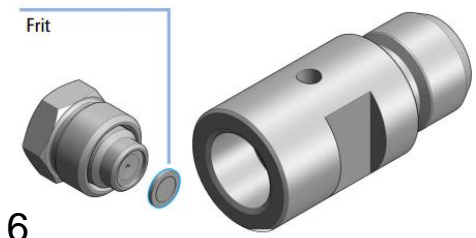
1290 Infinity II High Speed Pump



1290 Infinity II Flexible Pump




Pump head (pump seals/wash seals)



5067-5716

Maintenance Videos

Community.Agilent.com

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LC Portal > Videos

1290 Infinity III LC System (2)
active inlet valve (2)
Analytical LC Systems (3)
autosampler (2)
Best practices (4)
DAD (6)
flow cell (6) lamp (2)
LC Column
Compartments
(11)
LC Columns (2)
LC Detectors
(17)
LC Injectors and
Sample
Thermostats
(28)
LC Pumps (34)
lc valves (2)
Maintenance
(54)
Multisampler (5)
Operation (3)
pump head (4)
pump seals (5)
sample introduction (3)
seat capillary (2)
Troubleshooting
(8)

How to install a Low Dispersion Heat Exchanger in a G1316C or G1116X

G7129X How to Install the Integrated Column Compartment in a Vial Sampler

Low Dispersion Heat Exchanger Assembly

G7116A Valve Change

G7167X and G7129X- Installing a thermostat to the multisampler and vial samplers

1290 Easy Maintenance Pump Head Maintenance - Disassembly

1290 Long Life Pump Head Maintenance- Disassembly

1290 Long Life Pump Head - Removing the Pump Head

1290 Easy Maintenance Pump Head - Removing the EM Pump Head

Replacing the Peristaltic Pump on the G4226X and G1367E Autosampler

Swaging Fittings onto Stainless Steel Capillaries captioned in English

Replacing the lamps in a G1315A/B/C DAD captioned in English

1290 Replacing the G4220A/B Pump High pressure filter captioned in English

Changing the Flow Cell in a G4212A/B 1290 DAD captioned in English

Changing the Flow Cell in a G4212A/B 1290 DAD

1290 Changing the G4220A/B Jet Weaver - Captioned in English

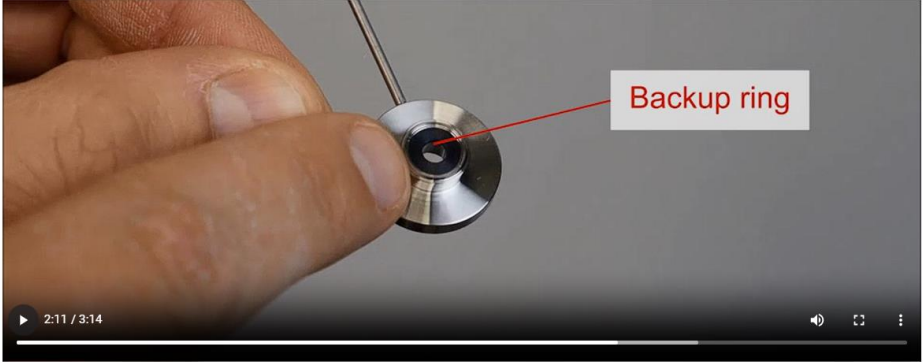
Changing the Flow Cell on a G1314X Variable Wavelength Detector - Captioned in English

Changing the Flow Cell on a G1314X Variable Wavelength Detector

More

1290 Easy Maintenance Pump Head Maintenance - Disassembly

The seal holder has two different sides. The black backup ring is supporting the piston seal and must not be removed. The side with the backup ring has a bigger diameter and a sharp edge to hold the piston seal.



This video will show you how to Disassemble the Easy Maintenance pump head.

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M

A video player showing a close-up of a person's hands wearing purple nitrile gloves working on a piece of silver-colored metal equipment, which is part of an HPLC pump. The person is using a small screwdriver to adjust or replace a component. Several other parts, including circular metal discs and a black O-ring, are laid out on a white paper towel next to the main assembly. In the background, another similar metal component is visible. A green bottle cap is also partially seen.

1:45 / 2:56

CC Settings Full Screen Share

HPLC Maintenance - Replacing the Pump Seals on an Agilent 1100/1200/1260 HPLC Pump

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HPLC Maintenance & Tutorial

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1

HPLC Maintenance - Removing the Pump Head on an Agilent...
Agilent Technologies
1:39

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HPLC Maintenance - Replacing the Pump Seals on an Agilent...
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2:57

3

HPLC Maintenance - Re-installing a Pump Head on an...
Agilent Technologies
1:57

4

HPLC Maintenance - Replacing the Loop Capillary on an...
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3:36

5

HPLC Maintenance - Replacing the Seat Assembly on an...
Agilent Technologies
2:07

6

HPLC Maintenance - Replacing Peristaltic Pump on an Agilen...
Agilent Technologies
1:35

HPLC Maintenance - Re-installing a Pump Head on an...
Agilent Technologies
33K views · 7 years ago

Tasks

Lab Advisor

- System Overview
- Configuration
- Apps
- Firmware Update
- Logs & Results

1290 LC

- Service & Diagnostics
- System Report





1290 LC

- Instrument Control
- EMFs

Help

- Context Help (F1)
- Help Topics
- What's New?

System Overview

System Name	System Information	EMF	Status
FSG Lab LC/MS	Agilent LC / 192.168.254.11 Agilent QQQ / 192.168.254.12	EMF?	Not Ready
1290 LC	Agilent LC / 192.168.254.11	EMF?	Not Ready
	G4220A 1290 Bin Pump Serial # DEBAA00622 Firmware: B.06.32 [0005] - Degasser - Solvent Selection Valve - Jet Weaver V35 Mixer - LAN Settings (IP: 192.168.254.1...)	EMF?	- Drive off
	G4226A 1290 Sampler Serial # DE00800980 Firmware: A.06.33 [002] - Wellplates ("54VialPlate", "54Vial... - Syringe Tag (Size 40 µl, Maximu... - Metering Parameter (Loop Size 4...	EMF?	
	G1316C 1290 TCC Serial # DE93000977 Firmware: A.06.32 [005]	EMF?	- Thermo off
	G4212A 1290 DAD Serial # DE00800753 Firmware: B.06.33 [0001] - Max-Light Cell - Flow Cell (Product# G4212-6000... - UV Lamp (Product# 5190-0917, ... - LAN Settings (IP: 192.168.254.1...	EMF?	- UV lamp not ready
6490A QQQ	Agilent QQQ / 192.168.254.12	EMF?	Not Ready

Fast Connect

Remove System

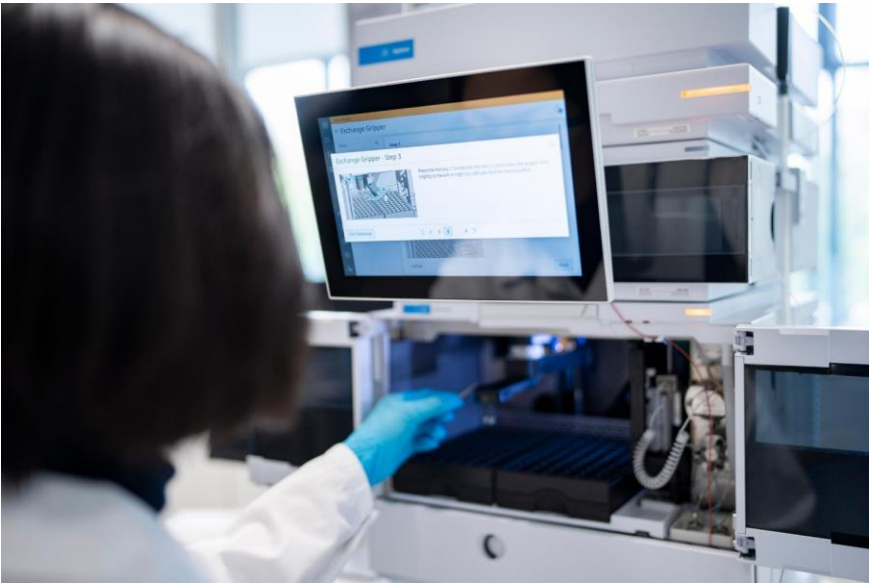
System Properties...

Add System...

Connection Address: 192.168.254.11/192.168.254.12

Version B.02.05 [103] - Basic | Licenses 8/10 ...

InfinityLab Assist



Standby

Tasks

Tasks

Make Ready: 10% B, 1.5 mL/min, 50 °C
00:01:00

Make Ready: 2% B, 1 mL/min, 30 °C
00:01:00

Standby: flush column at 99% B, sleep
00:01:00

Standby: sleep
00:01:00

Create Task

Schedule

19.02.2024

Scheduled

8:00 AM

Make Ready: 2% B, 1 mL/min, 30 °C

Not Ready

Health

Maintenance

Maintenance guides and tools for common tasks.

Diagnostics

Diagnostic tasks and wizards.

Insights

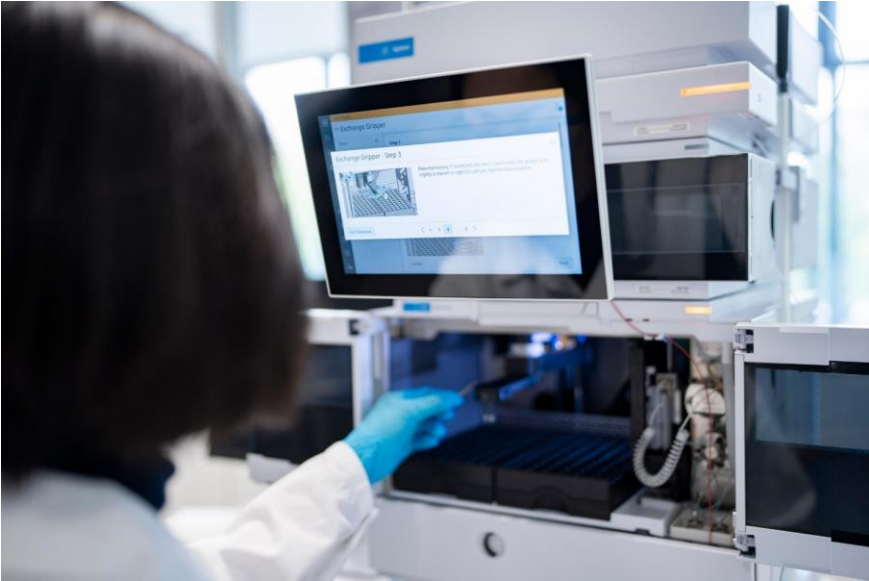
EMF counters and statistics about the instrument.

Troubleshooting

Guides and information for when the instrument runs into a problem.

Log

Instrument actions are recorded here.



Not Ready

← System Pressure Test

?

🔔

Overview

Results

Binary Pump

G7120A:MVHHP89764

ⓘ

Description

▼

🕒

Time Required

3 - 10 min

📋

Steps

6 | ▼

🔧

Tools & Parts Required

^

Item	Category	Part Number	#
Open-end wrench 1/4-5/16 inch	Tool	8710-0510	1
Blank nut SL	Part	5067-6127	1
PEEK blank nut for bio-compatible devices	Part	5043-0277	1

⚠️

Safety

CAUTION ▼

▶️

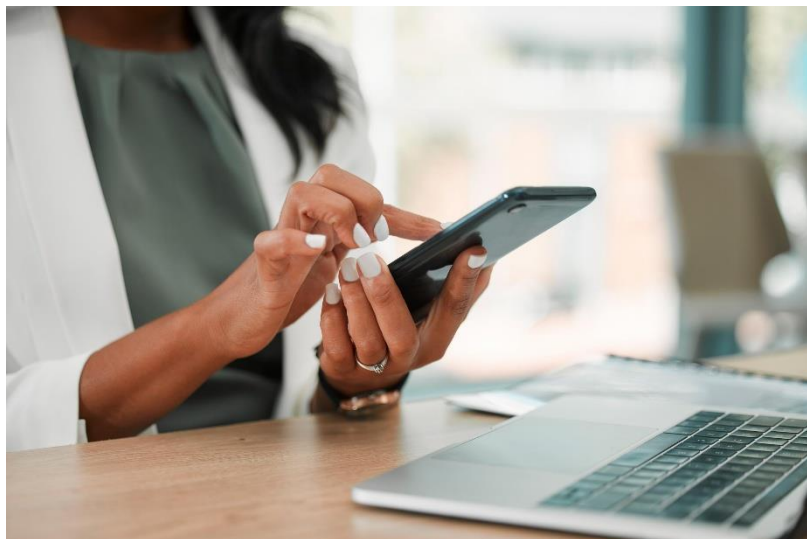
Start Test

General product and maintenance safety messages apply ([details](#))

Nothing running

⏮

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1-800-227-9770 option 3, option 3:

Option 1 for GC and GC/MS columns and supplies

Option 2 for LC and LC/MS columns and supplies

Option 3 for sample preparation, filtration, and QuEChERS

Option 4 for spectroscopy supplies

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