Agilent 1260 Infinity II Manual Preparative Injector

Technical Note

In this note we describe how to install and use the 1260 Infinity II Manual Preparative Injector.

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Agilent Technologies

Installing the Manual Injector

Unpacking the Manual Injector

Damaged Packaging

Upon receipt of your manual injector, inspect the shipping containers for any signs of damage. If the containers or cushioning material are damaged, save them until the contents have been checked for completeness and the manual injector has been mechanically checked. If the shipping container or cushioning material is damaged, notify the carrier and save the shipping material for the carriers inspection.

Delivery Checklist

Ensure all parts and materials have been delivered with the manual injector. The delivery checklist is shown in Table 1 on page 2. Please report missing or damaged parts to your local Agilent Technologies sales and service office.

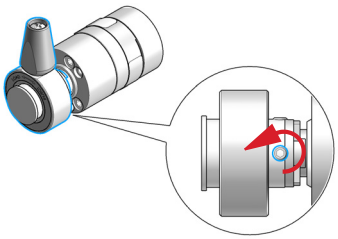
Table 1 Delivery Checklist

Description	Quantity
Manual Injection Valve-Prep-Kit (5067-6717)	1
Start cable (0100-1677)	1
Manual Injector ERI Start-Cable (5188-8056)	1
Ring stand, mounting bracket (1400-3166)	1
Syringe, 25 mL PTFE removable Luer lock (5190-1544)	1
Holder Manual Injector (G9328-00001)	1
User Documentation (G9300-64500)	1

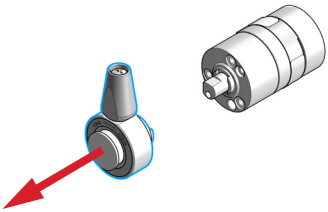
Additionally, one or more loops can be ordered as an option.

Install the Manual Injector

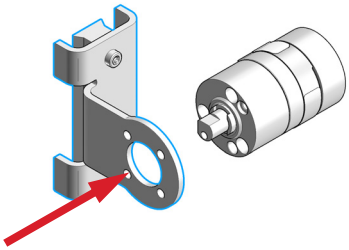
1 Loosen the setscrews that hold the injector lever onto the manual injector assembly.



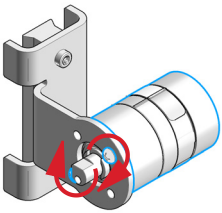
2 Slide off the manual injector lever assembly.



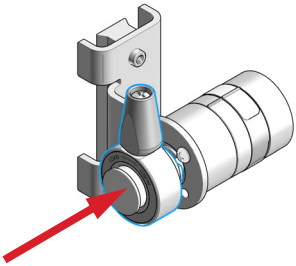
3 Depending on where the injector is installed, either push the holder onto the manual injector valve assembly, or push the ring stand mounting bracket onto the manual injector assembly.



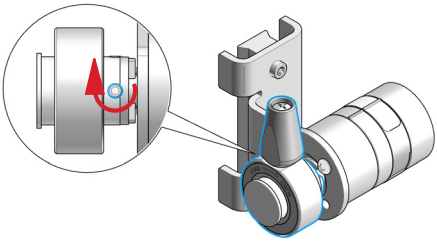
4 Tighten the screws to fix the holder to the valve assembly.



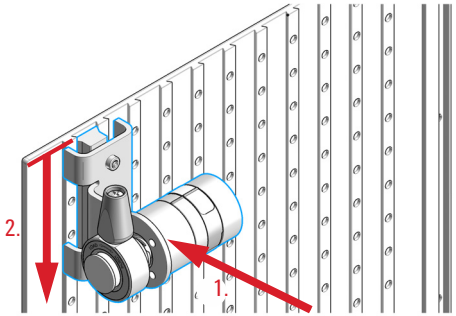
5 Push the manual injector lever assembly on the valve assembly.



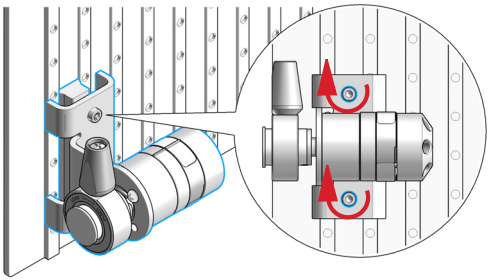
6 Tighten the setscrews to fix the injector lever assembly to the valve assembly.



7 Insert the t-nut of the holder into the guide conduct of the mounting plate and slide the holder into its desired position, or slide the ring stand mounting bracket onto the front pole of the column organizer.



8 Tighten the screws to fix the holder with the manual injector onto the mounting plate.



The manual injector is ready to be connected to the flow path of the system.

Flow Connections

WARNING

Toxic, flammable and hazardous solvents, samples and reagents

The handling of solvents, samples and reagents can hold health and safety risks.

➔ When working with these substances observe appropriate safety procedures (for example by wearing goggles, safety gloves and protective clothing) as described in the material handling and safety data sheet supplied by the vendor, and follow good laboratory practice.

➔ The volume of substances should be reduced to the minimum required for the analysis.

➔ Do not operate the instrument in an explosive atmosphere.

CAUTION

Prevent siphoning

➔ The outlets of the two vent capillaries (ports 5 and 6) and the needle port must be at the same level to prevent siphoning (see Figure 1 on page 6).

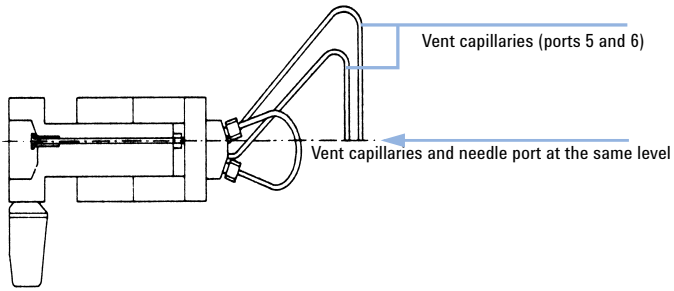


Figure 1 Vent Capillaries

1 Connect capillaries.

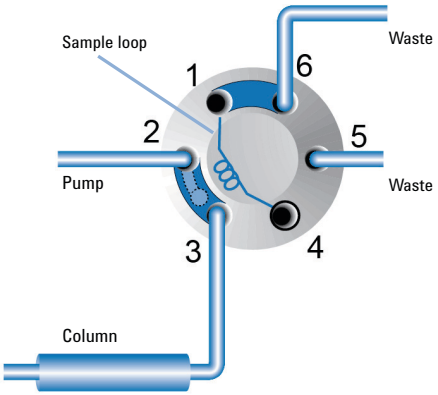
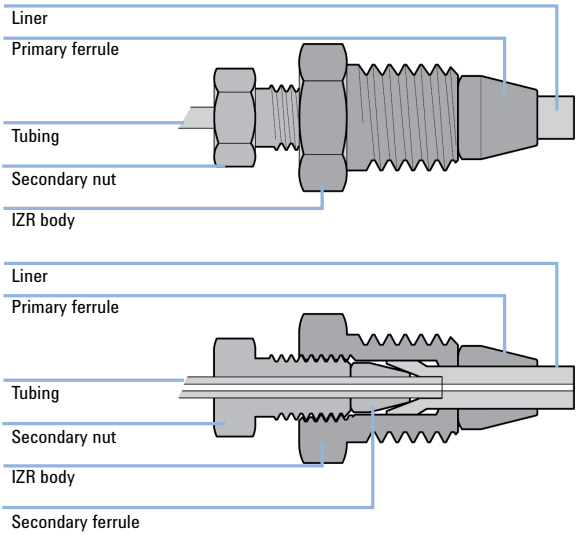


Figure 2 Flow connections (G1328D)

Install Internal Reducers

Internal reducers (IZR) are used to adapt small capillaries to a valve with larger fittings. This helps optimizing a preparative system to low flow rates.



Initial installation of an IZR

1. Remove the secondary nut and ferrule from the IZR body.
2. Screw the IZR body with the liner and primary ferrule into the valve port. Fingerthighten the IZR body.
3. Insert the tubing into the IZR body.
4. Push the tubing firmly to seat it properly in the valve port fitting. At the same time use a wrench to tighten the IZR body with 1/3 of a turn.
5. Remove the tubing from the IZR body.
6. Slide the secondary nut and secondary ferrule onto the tubing.
7. Insert the tubing/secondary nut/secondary ferrule assembly into the IZR body and screw it fingertight.
8. Push firmly on the tubing to seat it properly in the liner. At the same time use a wrench to tighten the secondary nut with 1/3 of a turn.

Remove an IZR

1 Remove the secondary nut, ferrule, and tubing.

2 Remove the IZR body, liner, and primary ferrule.

Reinstallation of an IZR

1 Reinsert the IZR body, primary ferrule, and liner into the valve port fitting, and fingertighten the IZR body.

2 Use a wrench to tighten the IZR body 1/8 turn.

3 Reinsert the secondary nut, ferrule, and tubing into the IZR body, and screw the secondary nut in fingertight.

4 Use a wrench to tighten the secondary nut 1/8 turn.

Leak Drainage

WARNING

Large amounts of pressurized solvents

Explosive and intoxication hazard

➔ Install the preparative manual injector in the preparative column organizer.

NOTE

For details, see installation instructions for the *Agilent InfinityLab LC Series 1260 Infinity II Column Compartment*.

Using the Manual Injector

Warnings and Cautions

WARNING

Ejection of mobile phase

When using sample loops larger than 100 µL, mobile phase may be ejected from the needle port as the mobile phase in the sample loop decompresses.

➔ Please observe appropriate safety procedures (for example, goggles, safety gloves and protective clothing) as described in the material handling and safety data sheet supplied by the solvent vendor, especially when toxic or hazardous solvents are used.

WARNING

Splashing of solvent

➔ When using the Needle Port Cleaner, empty the syringe slowly to prevent solvent from splashing back at you.

➔ Please observe appropriate safety procedures (for example, goggles, safety gloves and protective clothing) as described in the material handling and safety data sheet supplied by the solvent vendor, especially when toxic or hazardous solvents are used.

CAUTION

Potential damage to the valve

➔ Rinse the valve with water after using buffer solutions to prevent crystals from forming, which can cause scratches on the rotor seal.

Information on Injection Seal Material

The manual injector is supplied with a PEEK injection seal. PEEK is compatible with pH 0 – 14, incompatible with some concentrated mineral acids.

Needles

CAUTION Needle can damage valve

➔ Always use the correct needle size.

Use needles with 0.028-inch outer diameter (22 gauge) × 2-inch long needle, without electro-taper, and with 90° point style (square tip).

Inject a Sample

For the manual injector different sample injection methods exist:

- Complete loop filling for highest possible precision:

  Use at least two to three times of the loop volume (for example 40 – 60 µL of sample for a 20 µL sample loop).

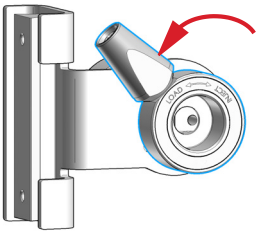
- Partial loop filling if there is only little sample available:

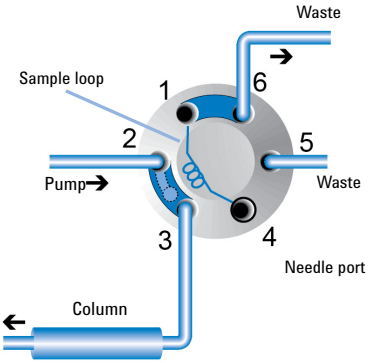
  Use a maximum of half of the loop volume (for example 10 µL of sample for a 20 µL sample loop).

Preparations

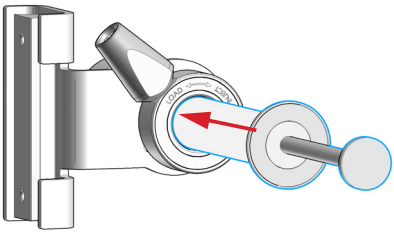
- Connect the injector to the system
- Make sure the system is ready for use
- Flush the injection valve and loop properly
- Place a waste beaker below the valve
- Set the injection source to **Manual Injector** and create an instrument method
- Fill the syringe with the sample

1 Turn the handle to the *LOAD* position.



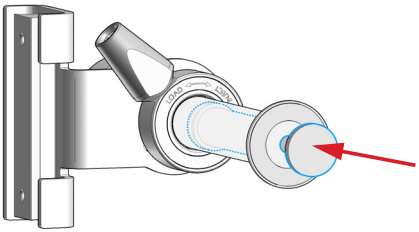


2 Insert the syringe with needle into the needle port.



NOTE You should feel slight resistance as the needle passes through the needle seal before it stops against the stator face.

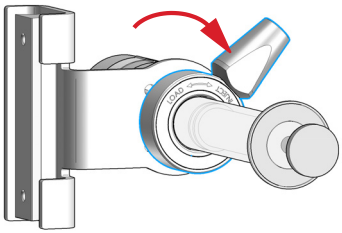
3 Slowly push the syringe piston to load the sample onto the loop.



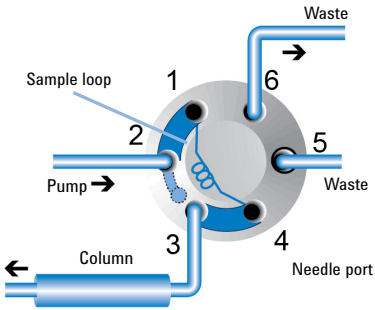
Loop is filled with sample.

NOTE To achieve higher precision over fill the loop (complete loop filling method only).

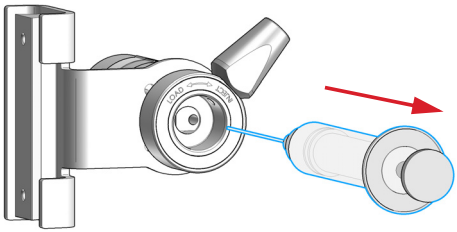
4 Leave the syringe in the needle port and turn the handle to the *INJECT* position.



The sample is in the flow path and is flushed towards the column.



5 Remove the syringe with needle from the needle port.



G1328-90030

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