

## Operator's Manual



## The Pressure Injection Cell Model PC1000

### CONGRATULATIONS!

Congratulations on your purchase of a Next Advance Pressure Injection Cell.

Please read this operator's manual which explains proper operation of the instrument. This manual can also be viewed on the web at [http://www.nextadvance.com/manuals/press\\_inject\\_manual.htm](http://www.nextadvance.com/manuals/press_inject_manual.htm).

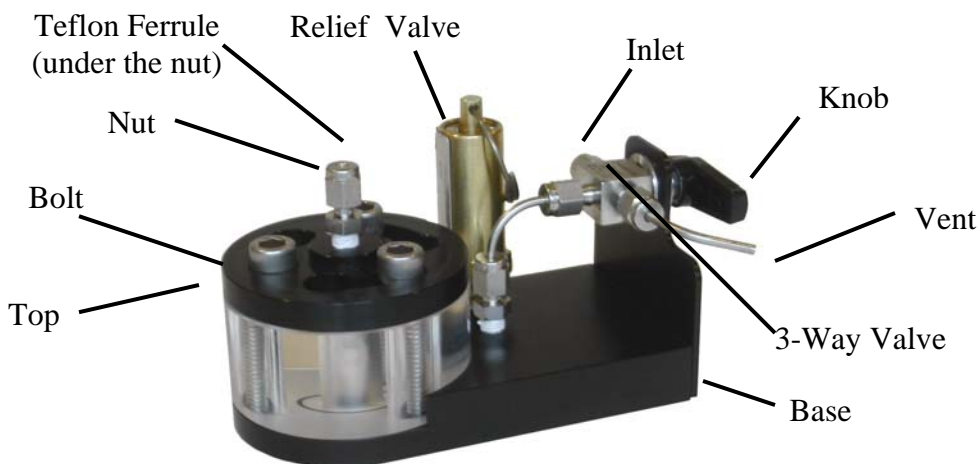
Enjoy using your Pressure Injection Cell. We're sure that it will work well for you and wish you good luck with your work.

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**Safety Warning:** Always close the valves on the pressure source and release any pressure from inside the pressure injection cell before opening the cell (removing the top) or connecting or disconnecting tubing to the cell. Never open the valves or try to pressurize the pressure injection cell without all connections properly tightened and the top securely bolted to the base of the cell. Wear protective eyewear. Users must be trained in working with high pressure systems.

## PARTS OF THE PRESSURE INJECTION CELL



## SETTING UP YOUR PRESSURE INJECTION CELL

Setting up the Pressure Injection Cell consists of attaching it to 1/8 inch (outside diameter) thick walled stainless steel tubing (not supplied with the Pressure Injection Cell). First, slide the tubing through the inlet nut until it hits a stop. Finger tighten the nut and then tighten it with a wrench for 1-1/4 turns. Connect the other end of the tubing to a pressurized gas tank. It is now set up.

## USING YOUR PRESSURE INJECTION CELL

### OVERVIEW

Using the pressure injection cell requires removing the top, inserting your sample, replacing the top, and then inserting a capillary. Next, inject the sample using pressurized gas to force the sample through the capillary. After the injection, close the gas tank valve and open the 3-way valve to release the pressure.

### REMOVING THE TOP

With the valves at the pressure source turned off and the 3-way valve opened to release any pressure inside the cell, loosen the three bolts securing the top, 2 turns each. Rotate the top counterclockwise by 60 degrees. Then lift off the top.

### INSERTING THE SAMPLE

Place the sample tube in the main hole of the base. The tube should not be capped. If the cap is hinged, you must cut off the hinge (with scissors).

### REPLACING THE TOP

Confirm that the black O-ring is seated in its groove. Slip the top onto the base, rotate the top 60 degrees clockwise, and then tighten the three bolts using a hex wrench.

**BE SAFE.** ALWAYS MAKE SURE THAT THERE IS NO PRESSURE IN THE CELL BEFORE LOOSENING THE BOLTS, AND THAT THE BOLTS ARE SECURELY FASTENED BEFORE APPLYING PRESSURE TO THE CELL. USERS MUST ALWAYS WEAR PROTECTIVE APPAREL, INCLUDING EYEWEAR AND MUST BE TRAINED IN WORKING WITH HIGH PRESSURE.

## OPERATOR'S MANUAL FOR THE PRESSURE INJECTION CELL



*Use a hex wrench to tighten the three bolts (shown on a different model pressure cell).*

### INSERTING A CAPILLARY

Loosen the nut covering the white ferrule using a wrench. Slide the capillary through the small hole in the ferrule, until it reaches the bottom of the sample tube. Tighten the nut, thereby squeezing the ferrule tightly around the capillary.

To remove the capillary, loosen the nut and slide the capillary out.

### INJECTING A SAMPLE

First point the knob on the 3-way valve towards the stainless steel tubing connected to the gas tank. Then, while looking away from the gas tank gages and with your hand covering them (in case they explode when the pressure is turned on) open the gas tank valve. Adjust the pressure regulator to the desired pressure.

When the injection is finished, close the gas tank valve. Then turn the knob on the 3-way valve so that it points toward the vent. This depressurizes the injection cell. Now you can loosen the nut over the ferrule and remove the capillary, loosen the three bolts, remove the top, and remove your sample tube.



*Use a wrench to tighten the nut, forcing the ferrule to squeeze tightly around the capillary.*

### MAINTENANCE

Periodically, the Teflon ferrule should be replaced. Simply remove the nut covering the ferrule, remove the ferrule, place a new ferrule, tapered side down into the fitting, and replace the nut. Your pressure injection cell comes with 10 ferrules (plus one installed in the top). Additional ferrules can be purchased directly from Chromatography Research Supplies (part number 214204, 1/8" to 0.4mm PTFE ferrules), at [www.chromres.com](http://www.chromres.com)

### DISCONNECTING AND RECONNECTING THE UNIT

Before you disconnect the pressure injection cell, mark lines on the nut and the valve, close the valves by the pressure source, and release any pressure inside the cell by opening the 3-way valve. When you reconnect the unit, you can use the same ferrule and tubing. Simply tighten the nut slightly more than last time. You should feel the wrench get very hard to turn once you go beyond the nut's previous position.

### TROUBLESHOOTING

In addition to the tips given below, a thorough list of troubleshooting tips is at <http://www.nextadvance.com/FAQs/FAQs-Pressure Injection Cell.htm>.

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**If gas leaks through the top-base interface of the pressure injection cell**, the three bolts might not be fully tightened or the O-ring might be nicked or dirty or missing. If the O-ring is dirty, wash it off with a soap and water and return it to its groove. Contact us for a replacement O-ring.

**If gas leaks around the capillary**, the ferrule should be replaced.

**If you do not see sample traveling through the capillary after a few minutes**, check that the gas tank is supplying the desired pressure (typically on the order of several hundred psi) and that the 3-way valve knob is pointing toward the pressurized gas line.

### SUPPORT

A thorough list of FAQs is at <http://www.nextadvance.com/FAQs/FAQs-Pressure Injection Cell.htm>.

If you cannot find a good answer there, please contact customer service by email at [support@nextadvance.com](mailto:support@nextadvance.com) or by telephone.

### SPECIFICATIONS

Model: PC1000

Max. Pressure: 1000 psi (6.8 MPa)

Size: 6.5 in (16 cm) long x 3 in (8 cm) wide  
x 4 in. (10 cm) high

Weight: 2-1/2 lbs. (1 kg)

### WARRANTY

The Pressure Injection Cell comes with a 30 day money back guarantee (less shipping charges) and a two year warranty. Next Advance will replace, free of charge, any part which is defective due to workmanship or materials. For further information, please go to [http://www.nextadvance.com/legal\\_terms.htm](http://www.nextadvance.com/legal_terms.htm).

### WARRANTY LIMITATIONS

Begins at date of original purchase.

Damage due to shipping and handling is not covered by this warranty.

In no event shall Next Advance be liable for incidental or consequential damages.

### WARRANTY IS VOID IF

Product has defect or damage due to product accident, alteration, connection to an improper electrical supply, fire, flood, lightning, or other conditions beyond the control of Next Advance.

Product is improperly installed or used.

### OPERATOR'S RESPONSIBILITY

Provide proof of purchase and provide normal care and maintenance.

BE SAFE. ALWAYS MAKE SURE THAT THERE IS NO PRESSURE IN THE CELL BEFORE LOOSENING THE BOLTS, AND THAT THE BOLTS ARE SECURELY FASTENED BEFORE APPLYING PRESSURE TO THE CELL. USERS MUST ALWAYS WEAR PROTECTIVE APPAREL, INCLUDING EYEWEAR AND MUST BE TRAINED IN WORKING WITH HIGH PRESSURE.