

# Using the Meinhard PRL-02 'Pearl' nebulizer cleaner

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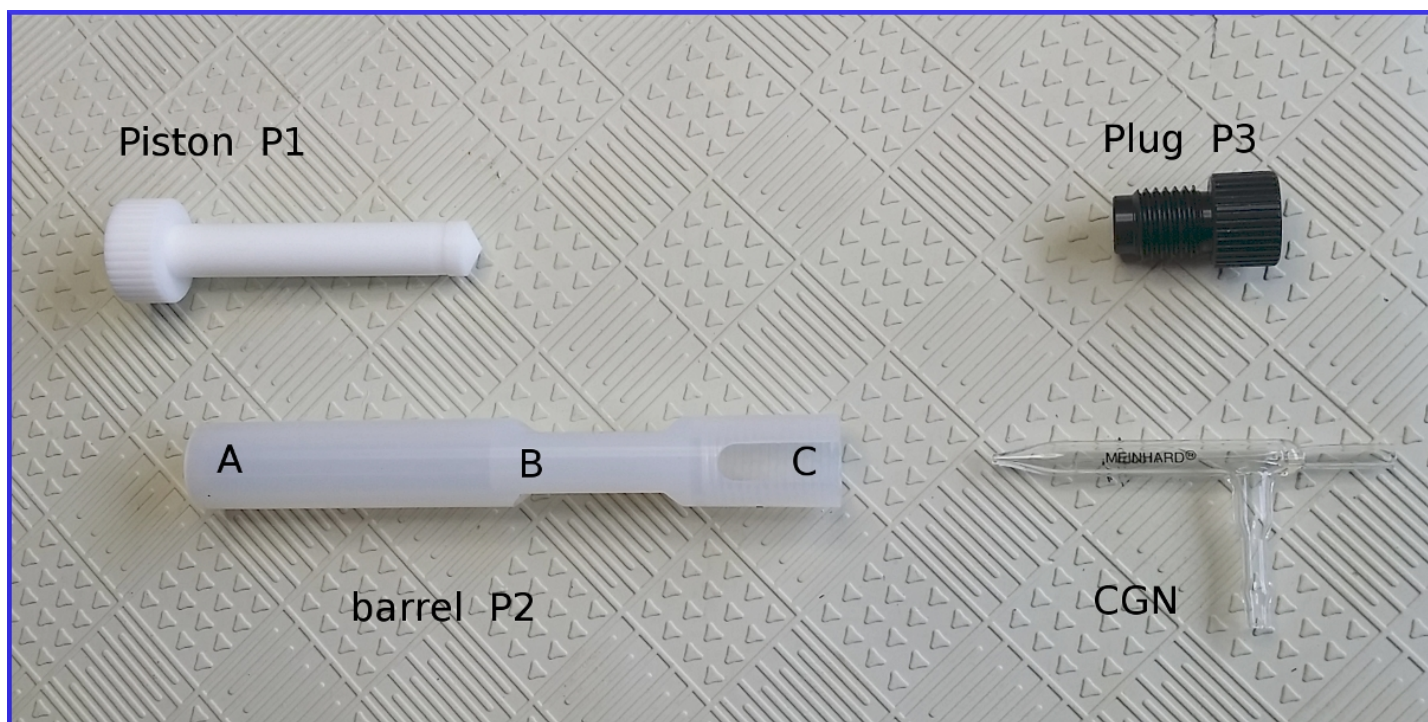


Figure 1 above shows the parts of the Meinhard 'Pearl' cleaner - suited for use with all types of concentric glass and quartz ICP nebulizers.

The Pearl works by pressing a mild detergent solution through a nebulizer - shown here as 'CGN' - in a reverse direction to the normal gas and liquid sample flows.

1. Place the nebulizer into end 'C' of the Pearl, with the nebulizer's side arm in the slot 'B'. The tip of the nebulizer will push up against a small seal.
2. Clamp the nebulizer in place with the plug P3 by screwing P3 in gently. The nebulizer will now be held in place at its ends, by the O-ring seal at the tip of the nebulizer, and the plug P3 at the sample inlet end. Be careful to avoid over-tightening P3. This plug should press against the nebulizer securely but not with force.

Be careful to avoid pressing P3 strongly against the side arm - because the resulting leverage could break it.

3. Fill the barrel P2 with roughly 1 part methanol and 5 parts of a dilute detergent solution, through the opening at A.

Any mild detergent for cleaning glass can be used.

4. Then place the piston P1 into the opening at A and slowly press the cleaning solution through the nebulizer by pushing the piston into the barrel and rotating it if necessary at the same time.



5. As the cleaning solution passes through the nebulizer it will be pressed out via the side arm of the nebulizer and the plug P3. Allow this solution to drain into a waste container.

6. To re-fill the Pearl, loosen the plug P3 so that the piston can be removed without creating a vacuum in the barrel. Rotate the piston as it's removed, as was done when inserting, so that the piston moves smoothly.

After re-filling the barrel, remember to gently close P3 again.

7. Inject compressed air or argon into the side arm of the cleaned nebulizer, to blow out any remaining droplets when the cleaning is finished.

Note : the Pearl has been designed to be used with **all types** of concentric glass and quartz ICP nebulizers, whatever their manufacturer ... please let us know if you discover a nebulizer that doesn't fit - and we'll make any changes needed.

If there are stubborn mineral deposits in the orifice of the nebulizer, may be necessary to solubilize these deposits with a pre-soak of the nebulizer in a strong mineral acid.

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