

# Niagara Plus CM™

## Reduce your environmental footprint and double your sample throughput

The Niagara Plus CM uses Flow Injection technology to reduce analysis time, environmental impact and operating cost:

- Lower argon consumption.
- Reduced cost of consumables such as torches, cones, RF coils, pump tubing, acids, standards and chemicals.
- Lower power consumption.
- Reduced stress on RF system and lower maintenance cost.
- Less down-time for cleaning carbon from torch when analyzing organics.
- Less chemical waste to dispose of.

### Benefits

- Twice the sample throughput for a typical analysis.
- Half the normal sample volume.
- Automatic addition of the internal standard simplifies sample preparation.
- Inert sample path reduces carryover – the sample does not contact any peristaltic pump tubing.
- Constant flow of solution to the plasma maintains plasma stability and reduces stabilization times.
- Compact design easily interfaces to almost all models of ICP-MS and ICP-OES.

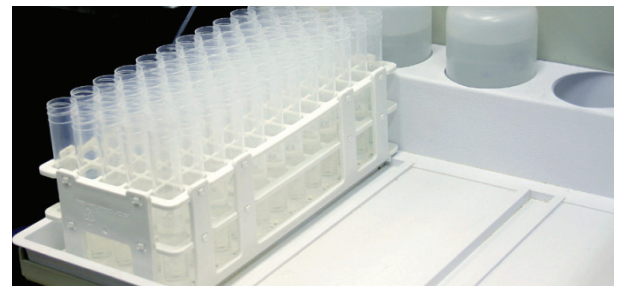


Figure 1. Samples typically analyzed in an hour, without Niagara Plus CM

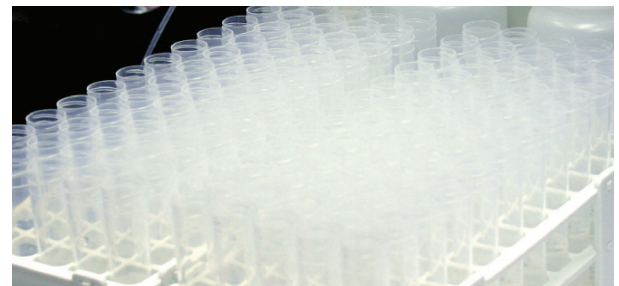


Figure 2. Samples typically analyzed in an hour, with Niagara Plus CM



**GLASS EXPANSION**  
Quality By Design

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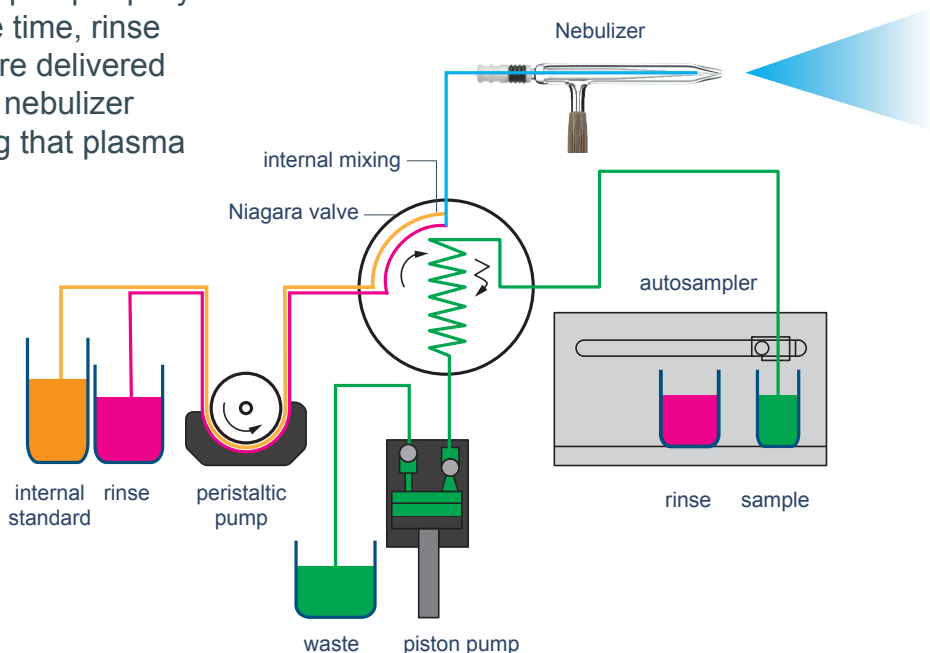
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The Niagara valve switches between two positions. In the first position a loop of capillary tubing is filled with sample. In the second position, the sample is delivered to the nebulizer.

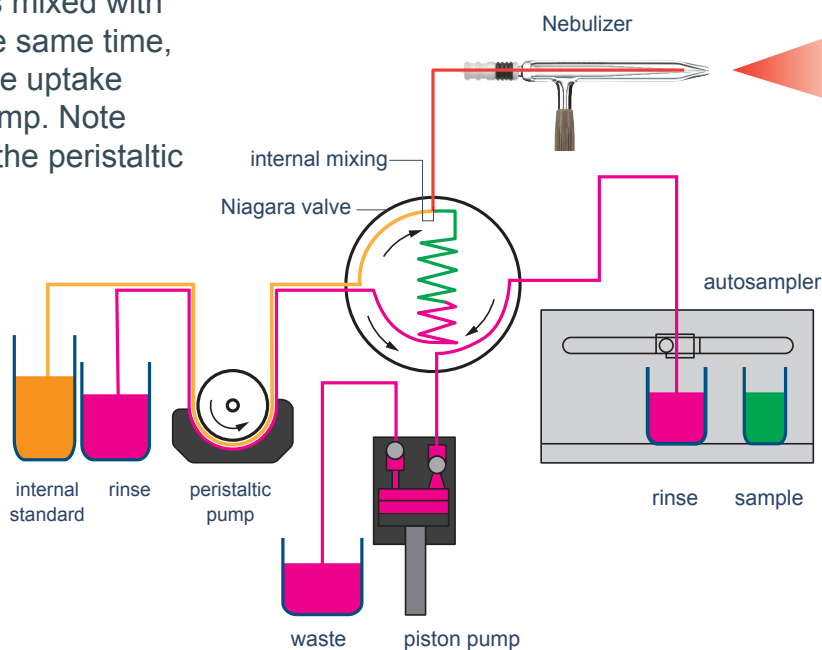
### Step 1 - Fill loop

The positive displacement piston pump rapidly fills the sample loop. At the same time, rinse and internal standard solutions are delivered to the nebulizer, washing out the nebulizer and spray chamber, and ensuring that plasma stability is maintained.



### Step 2 - Aspirate sample

The Niagara valve switches position so that the rinse solution pushes the sample into the nebulizer. The internal standard is mixed with the sample within the valve. At the same time, the autosampler probe and sample uptake tubing are rinsed by the piston pump. Note that the sample does not contact the peristaltic pump tubing at any time.



Contact us at [enquiries@geicp.com](mailto:enquiries@geicp.com) for more information on how the Niagara Plus CM can increase your productivity.