Glass Expansion D-Torch™

Reduce your ICP running costs with our revolutionary demountable torch.

Benefits of the D-Torch Include...

- Demountable outer tube - why replace the entire torch when just the outer tube wears? With the D-Torch, you need only replace the outer tube. And most operators will be saving money after only two replacements.
- Interchangeable quartz and ceramic outer tubes.
- Much lower cost than other demountable torches.
- Reduced running costs with the optional long life ceramic outer tube
- Interchangeable injectors - choose the optimum injector for your application. Select from quartz for aqueous solutions, narrow bore for organics, wide bore for high dissolved solids or ceramic for HF.
- Easier cleaning and maintenance with the ability to remove the injector and outer tube.

For more information visit: www.geicp.com

GLASS EXPANSION
Quality By Design

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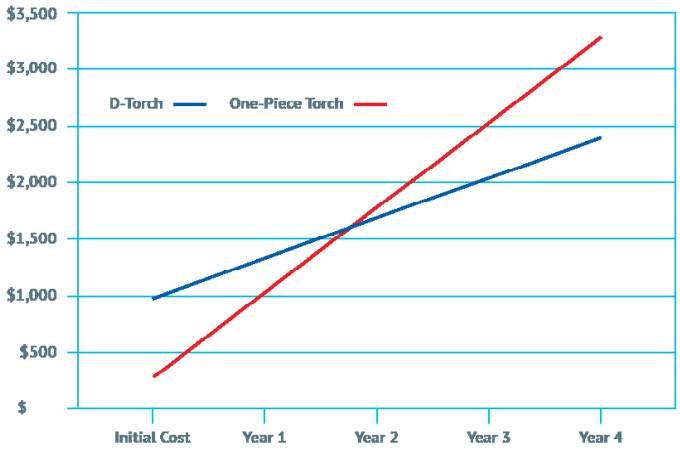
AHF ANALYSENTECHNIK



Comparative ownership costs of replacing a one-piece torch twice a year versus a D-Torch

Unique Virtually Indestructible Ceramic Outer Tube

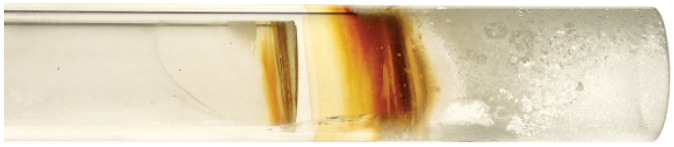
Glass Expansion pioneered the design of ceramic torches more than 20 years ago. Since then we have provided ceramic versions of our D-Torch demountable torches for dozens of different ICP models.

Using a ceramic outer tube on your ICP torch produces a hotter, more robust plasma which reduces matrix effects and improves detection limits. Compared to a quartz outer tube, the ceramic outer tube has a much longer lifetime, greatly reducing maintenance, cleaning and downtime due to torch failure. In some sample matrices, quartz outer tubes can degrade in hours while the ceramic outer tube will last years under the same conditions.

The ceramic outer tube is ideal for:

- Analyses at the detection limit as the hotter plasma increases sensitivity by 30%
- Monitoring of wear metals in engine oils, as quartz outer tubes often suffer cracking, crazing and shortened lifetimes due to thermal shock
- Analysis of fusion samples where the lithium salts rapidly attacks quartz
- Measuring high TDS samples that will quickly devitrify the quartz outer tube
- Samples requiring determination of Si at low levels, where quartz outer tubes leach Si into the hot Ar plasma gas

Six hours of running 10% NaCl



Quartz outer tube

Ceramic outer tube

A combination of high temperature and salt deposit causes a quartz torch to devitrify. Higher concentrations of salt in the samples lead to more rapid devitrification. The quartz torch in the photo was run for only 6 hours with samples containing 10% NaCl and is already badly degraded. By contrast, the ceramic material does not devitrify and is not affected by salt deposits.

The ceramic D-Torch in the photo was run for the same period and with the same samples as the quartz torch but shows no degradation at all.

The D-Torch is available for a range of ICP Models, Including those from PerkinElmer®, Spectro™, Thermo® and Agilent®.

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* The D-Torch is covered by US Patents 7,847,210 B2 and 8,232,500 B2