



GLASS EXPANSION

Quality By Design

User Guide for D-Torch 30-808-3800

PerkinElmer® Avio

Before you Start

Congratulations on the purchase of your D-Torch.

As supplied, the D-Torch is fully assembled. Table 1, lists the D-Torch parts that can be ordered separately.

Item no.	Part Number	Description	Qty
1	31-808-3782	Injector adaptor	Refer note
2	Refer note	Injector	Refer note
3	31-808-3802	D-Torch body	1
4	31-808-3792	D-Torch quartz outer tube	1
5	31-808-2818	Outer tube retainer	1
6	SAFEGLOVE-MED	Safety gloves	1 pair
7	31-808-3820	D-Torch ceramic outer tube	Refer note

Note:

The following items are not supplied with this D-Torch assembly - But can be purchased separately.

- The injector adaptor and injector (items 1 and 2) are identical to those used with the original Perkin Elmer Torch. If desired, a wide range of different injectors sizes and material types are available.
- The ceramic outer tube (item 7). To assist with the placement of the D-Torch, this ceramic tube is marked with a circular band to indicate the position of the D-Torch's inner tube.



Scope

The following pages of this document will explain:

1. Precautions for personal safety and D-Torch preservation
2. Remove D-Torch outer tube
3. Attach D-Torch outer tube

Instructions

** The D-Torch is covered by US Patent 8,232,500 B2*

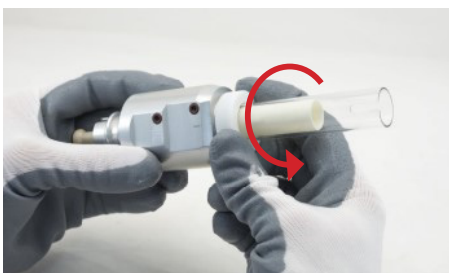
1. Precautions for personal safety and D-Torch preservation.

- Always wear safety gloves (item 6) and safety glasses when handling ICP torches.
- The D-Torch is made from high-grade engineered materials – handle with extreme care.
- Do not allow the Torch to be placed on hard surfaces or allow it to come into contact with hard objects.
- It is recommended you review and understand this procedure before handling the D-Torch assembly.

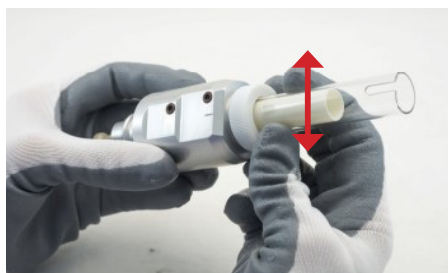
2. Remove D-Torch outer tube

The D-Torch outer tube (item 4) is accurately located in place with the retainer. The outer tube can be removed at any time by completing the following steps.

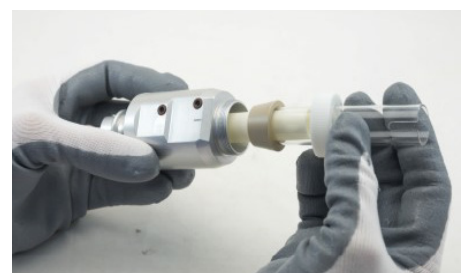
- 2.1 If fitted, remove D-Torch assembly from ICP (not shown).
- 2.2 Unscrew the outer tube retainer (item 5, at the tube base) by approximately 1/2 turn.
- 2.3 Grip outer tube (lower end, near D-Torch body) and gently wriggle it from side to side. You will hear a “click” as the outer tube releases.
- 2.4 Fully unscrew the retainer and carefully withdraw the outer tube from the torch body.



Step 2.2



Step 2.3



Step 2.4

Note: Outer tube is permanently fitted with a tapered ferrule, **Do not** attempt to remove the ferrule from the outer tube.

Inner tube is permanently fixed to the D-Torch body, **Do not** attempt to remove the inner tube from the D-Torch body.

3. Attach D-Torch outer tube

This installation method is the same for either quartz, or ceramic outer tube.

- 3.1 Check that both locating surfaces (of the outer tube and torch body) are clean and free from damage.
- 3.2 Carefully slide the outer tube over the D-Torch inner tube – the outer tube will self-locate into the torch body. **Note!** You must align the alignment stripe of the D-Torch body stripe with the outer tube stripe.
- 3.3 Tighten the retainer to fix the outer tube in place.
Note! Moderate force by hand is adequate - Do not over-tighten.



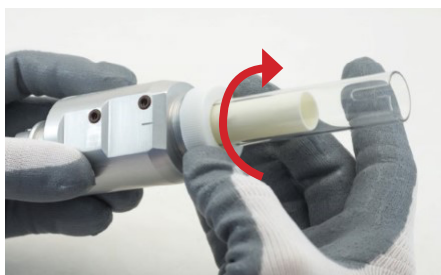
Step 3.1



Step 3.2a



Step 3.2b



Step 3.3



Ceramic outer tube

- 3.4 You can now return the D-Torch to your ICP as normal (not shown).

Finished: If you have any questions regarding the D-Torch assembly or this procedure, please contact your supplier.

For more information please visit **www.geicp.com** or contact one of our offices below.

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