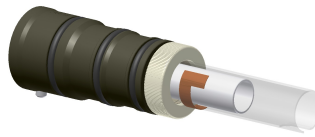


# D-Torch\* installation guide

## Optima 8000/8300DV

### 30-808-3300



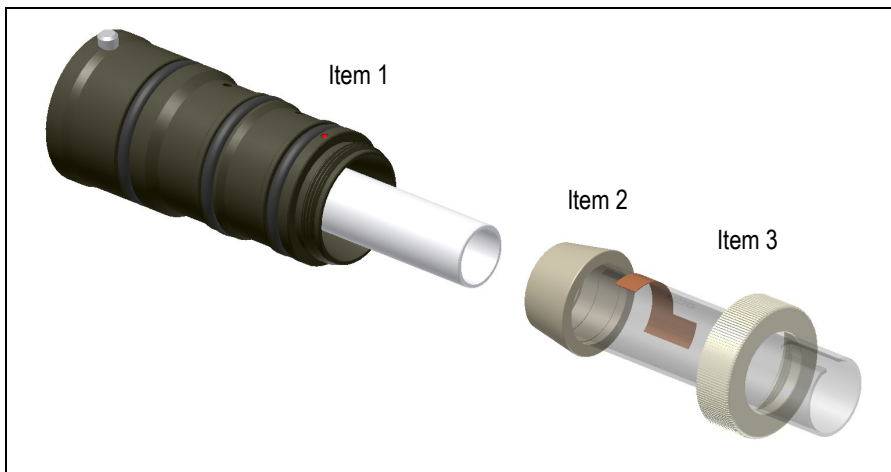
#### BEFORE YOU START

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.

The D-torch is supplied with a pair of gloves; always wear clean gloves when handling ICP Torches and their components

Item No.	Part Number	Description	Qty
1	31-808-3292	D-Torch OPTIMA 8000DV Body	1
2	31-808-3294	D-Torch OPTIMA 8000DV Quartz outer tube	1
3	31-808-2818	Retainer	1
4	2491	Hex key 2.5mm	1
5	SAFEGLOVE-MED	Safety Gloves	1



#### A. SCOPE

This document will explain how to perform the following operations: -

1. Installation of D-Torch to Optima DV ICP
2. Removal of D-Torch Outer Tube
3. Replacement of D-Torch Outer Tube

#### B. TOOLS, SPECIAL REQUIREMENTS, etc

- Phillips Screw Driver - #2 Point
- Hex Key - 2.5mm (Item 4 Supplied)
- Safety gloves (Item 5 Supplied)

#### C. PRECAUTIONS FOR PERSONAL SAFETY AND TORCH PRESERVATION

- Always wear safety gloves (item 5) and glasses when removing (or replacing) ICP Torches.
- The D-Torch is made from high grade engineered materials – Handle with extreme care
- Do not allow the D-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.

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

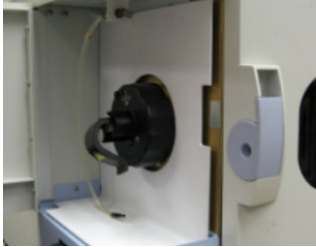
# D-Torch\* installation guide

## Optima 8000/8300DV

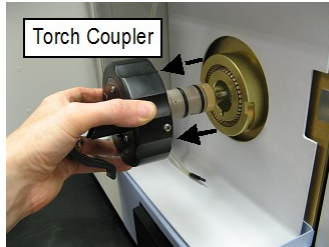
### 30-808-3300

#### 1. INSTALLING GLASS EXPANSION D-TORCH TO OPTIMA DV ICP

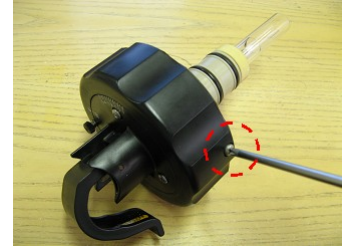
- 1.1 Disconnect (if fitted) the Spray chamber and remove it from ICP torch Coupler.
- 1.2 Remove the torch Coupler from your ICP.
- 1.3 Unscrew the Locking lug (in two places) from Coupler using a Phillips head screwdriver.



Step 1.1



Step 1.2

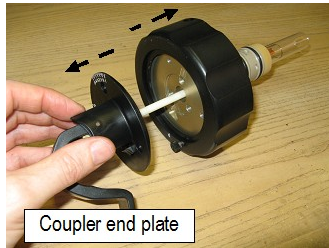


Step 1.3

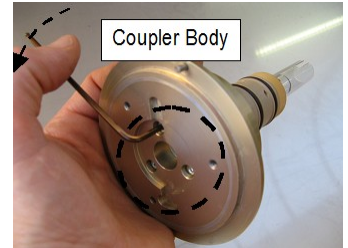
- 1.4 Remove the three screws retaining the Coupler end-plate using a Phillips head screwdriver.
- 1.5 Carefully remove the Coupler end-plate.  
**Note!** To prevent the internal spring from being lost, keep Injector fitted to the Coupler end-plate.
- 1.6 Remove the three screws retaining the ICP Torch using the 2.5mm hex Key provided (item 4).



Step 1.4

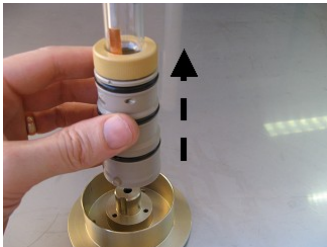


Step 1.5

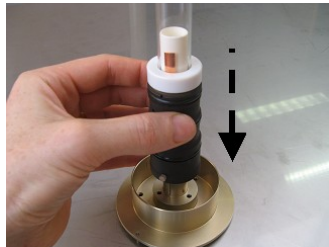


Step 1.6

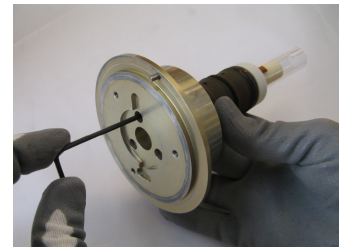
- 1.7 Remove the original Torch from the Coupler body, fit the D-Torch and fasten in place using the screws from step 1.6



Step 1.7a



Step 1.7b



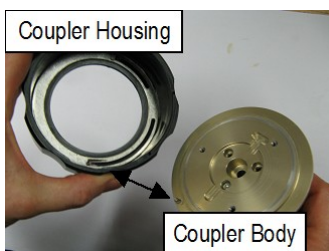
Step 1.7c

**Be careful** not to 'cross-thread' the screws. Fit all three screw loosely to begin with then tighten progressively in a clockwise fashion. If a screw feels tight at the beginning, **do not** force-it. Remove the screw and then try again.

- 1.8 Finish reassembling the Coupler by completing steps 1.3 to 1.6 in reverse order.

**Note!** When reassembling the Torch coupler, check for the following: -

- When fitting the Coupler housing, the pin of the Coupler body must sit in the slot shown below.
- Before screwing on the Coupler end-plate, check that the indicator symbols are close to the Housing 'tear drop'



Step 1.8a



Step 1.8b



Finished

**Finished** After the Coupler has been reassembled, it can be returned to your ICP - Ready for use.

# D-Torch\* installation guide

Optima 8000/8300DV

30-808-3300

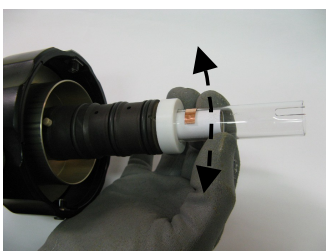
## 2. REMOVAL OF D-TORCH OUTER TUBE

The D-Torch's outer tube is accurately located in the D-Torch body with a retainer cap. The outer tube can be removed at any time by completing the steps below.

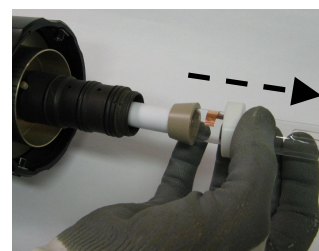
- 2.1 If fitted, remove Torch assembly from ICP. (Not Shown)
- 2.2 Unscrew retainer ½ turn.
- 2.3 Grip outer tube (lower end, near D-Torch body) then gently wriggle the outer tube from side to side. You will hear a “click” as the outer tube releases from the D-Torch body.
- 2.4 Fully unscrew the Retainer then carefully withdraw the Outer Tube from the Torch Body.



Step 2.2



Step 2.3



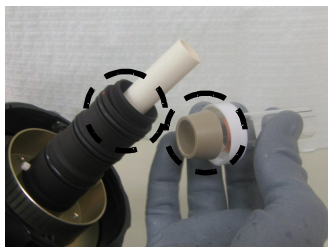
Step 2.4

**Note!** Outer tube is permanently fitted with a tapered ferrule - **Do not** attempt to remove ferrule from outer tube.  
Inner tube is permanently fixed to D-Torch body - **Do not** attempt to remove inner tube from D-Torch body.

## 3. REPLACEMENT OF D-TORCH OUTER

To replace the outer Tube, complete the following steps.

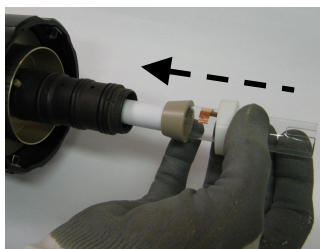
- 3.1 Check that both locating surfaces (Outer Tube and Torch body) are clean and free of damage.



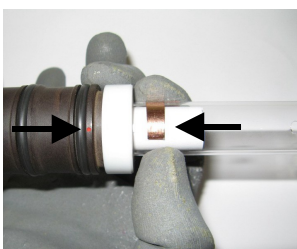
Step 3.1

- 3.2 Carefully slide the Outer Tube over the Inner Tube – The Outer Tube will self locate into the Torch body.  
**Note!** You must align the D-Torch body's red-dot with the inner tube's hole - Visible under the copper foil.

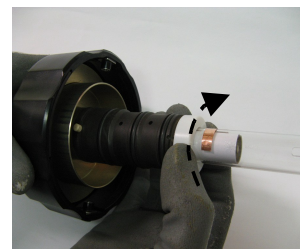
- 3.3 Reattach the retainer to the D-Torch body to fix the outer tube in place (moderate force by hand is adequate).



Step 3.2a



Step 3.2b



Step 3.3

- 3.4 Return Torch assembly to ICP and connect as normal. (Not Shown)

**Note!** If you have any questions regarding your D-Torch or this procedure, please contact your supplier