Flow through inline electrode holder

Overview & assembly manual

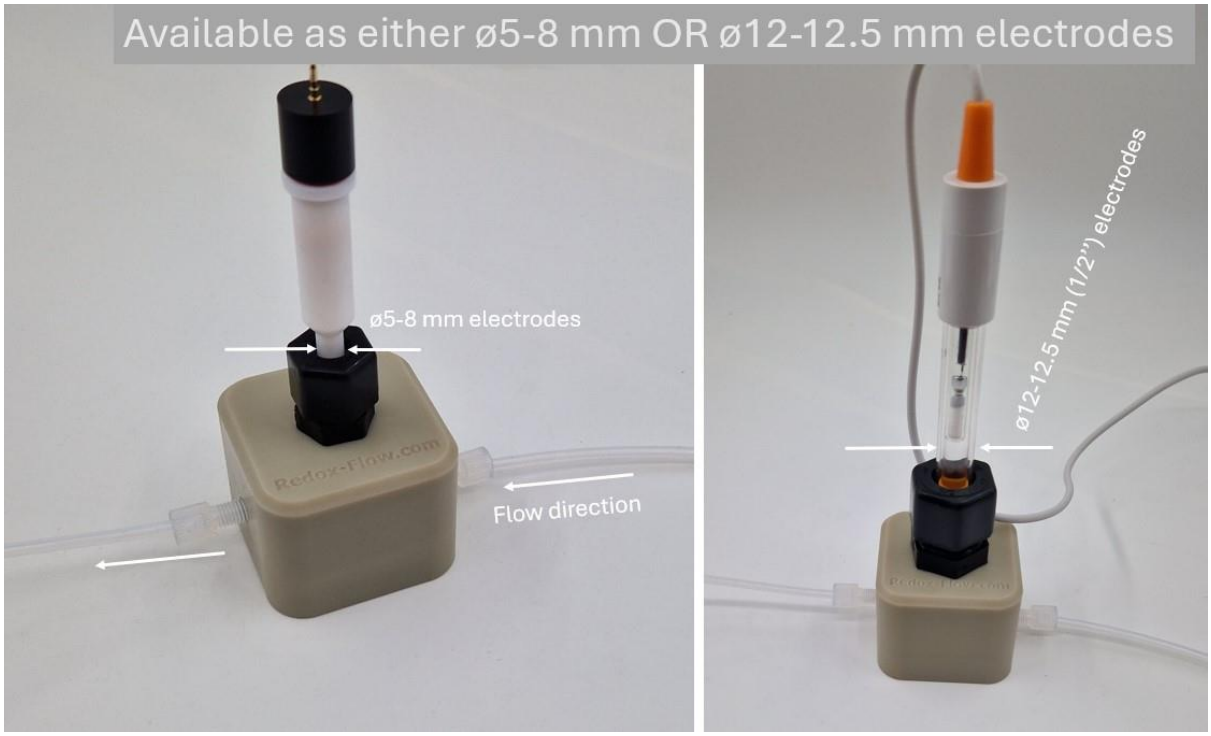
Redox Flow
www.redox-flow.com

Notes

The inline electrode holder is intended for research purposes only and can be assembled in several ways.

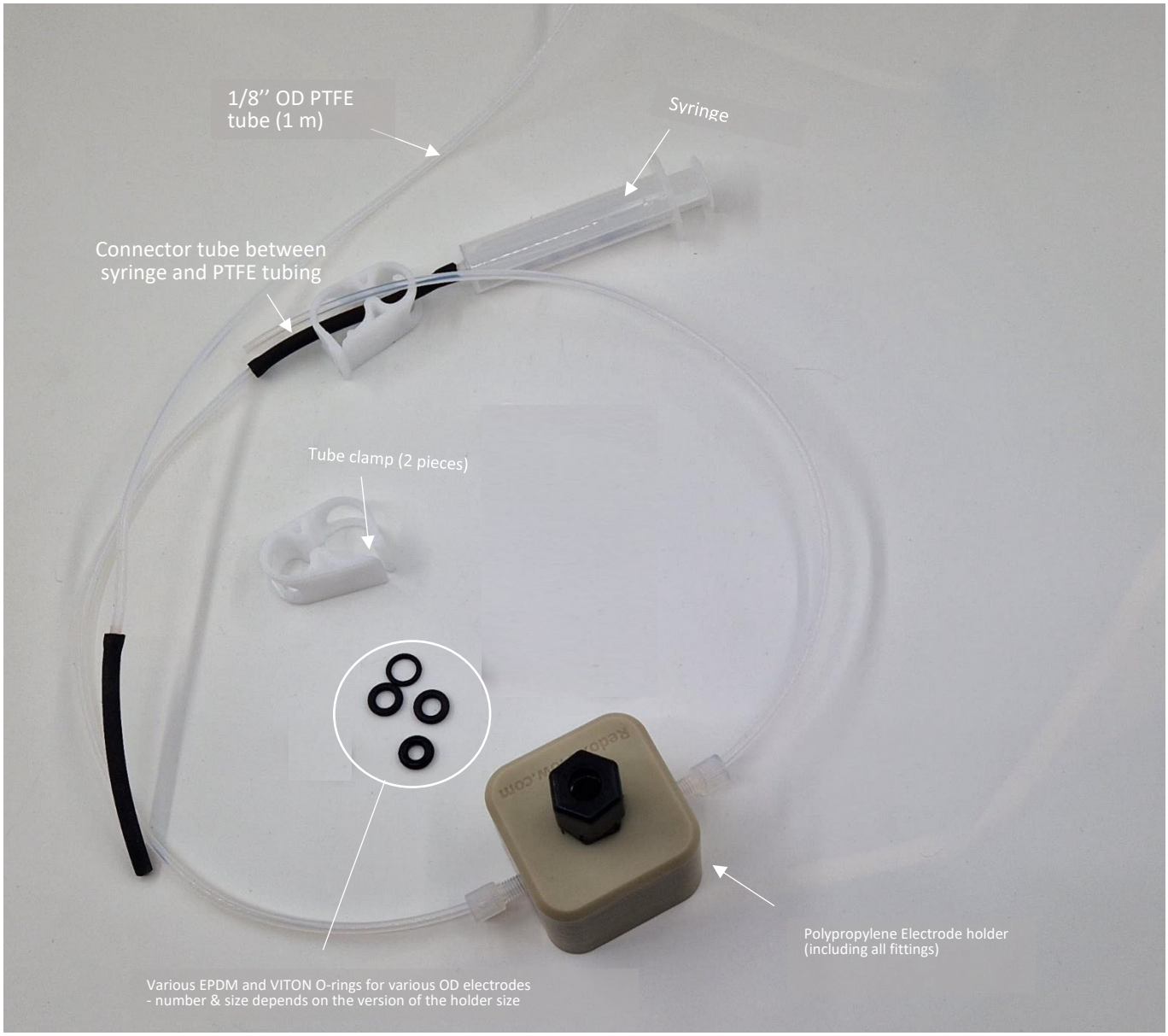
There is no warranty on performance, corrosion, or lifetime on the items. It is purely for research purposes.

Version 1.0 – July 7, 2024



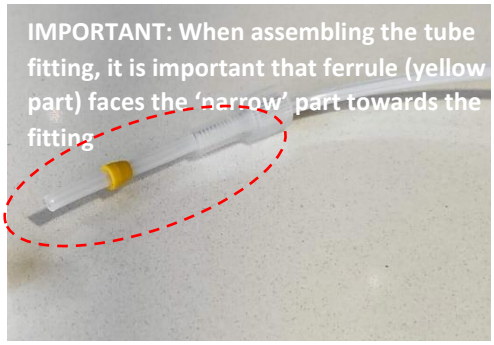
This flow through electrode holder is intended for a single electrode with 5 mm-8 mm OD or 12 mm-12.6 mm (1/2'') electrodes. It can be operated as either a dead-end electrode holder or flow though holder.

Overview of included components

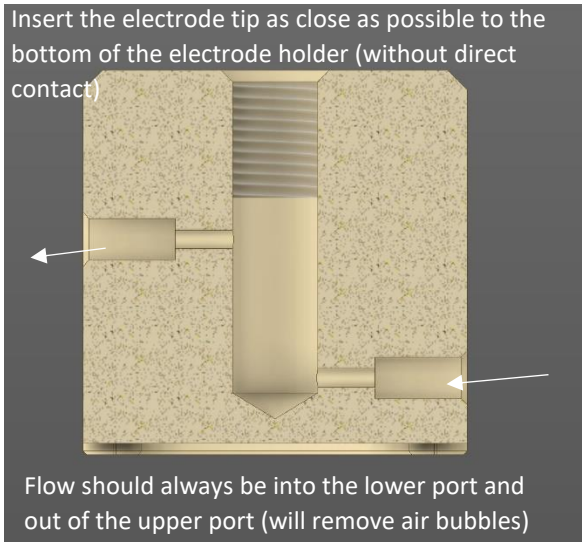


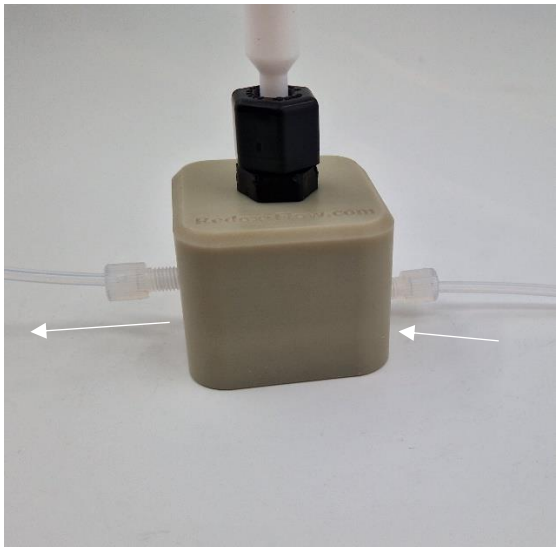
Assembly

Tube mounting



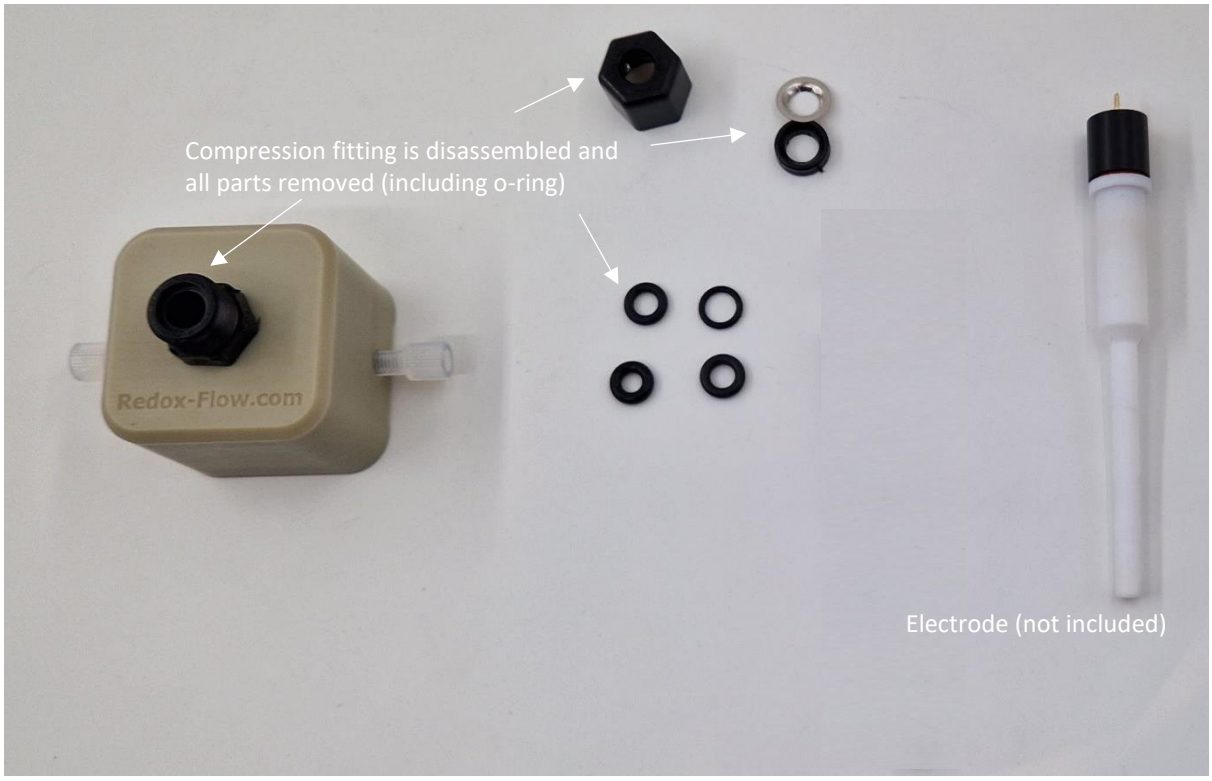
General notes

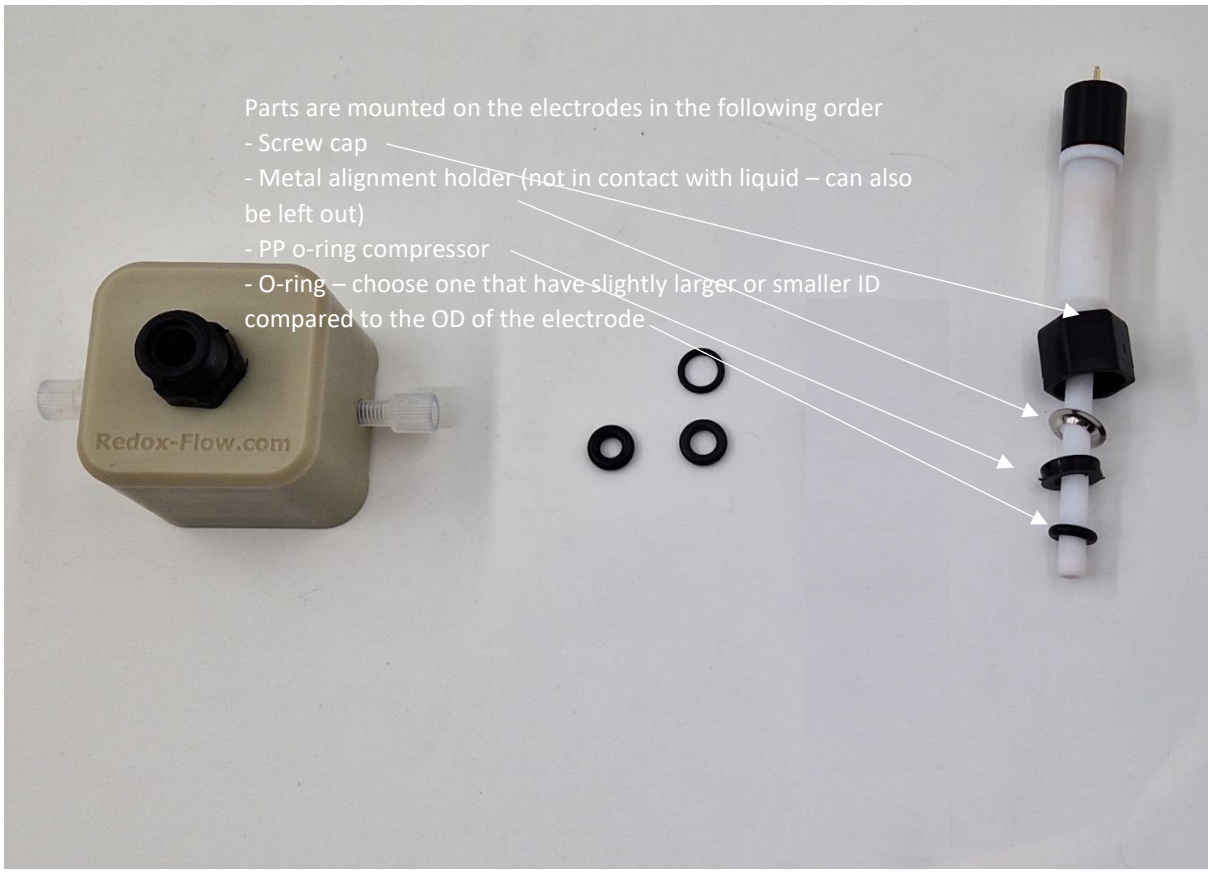


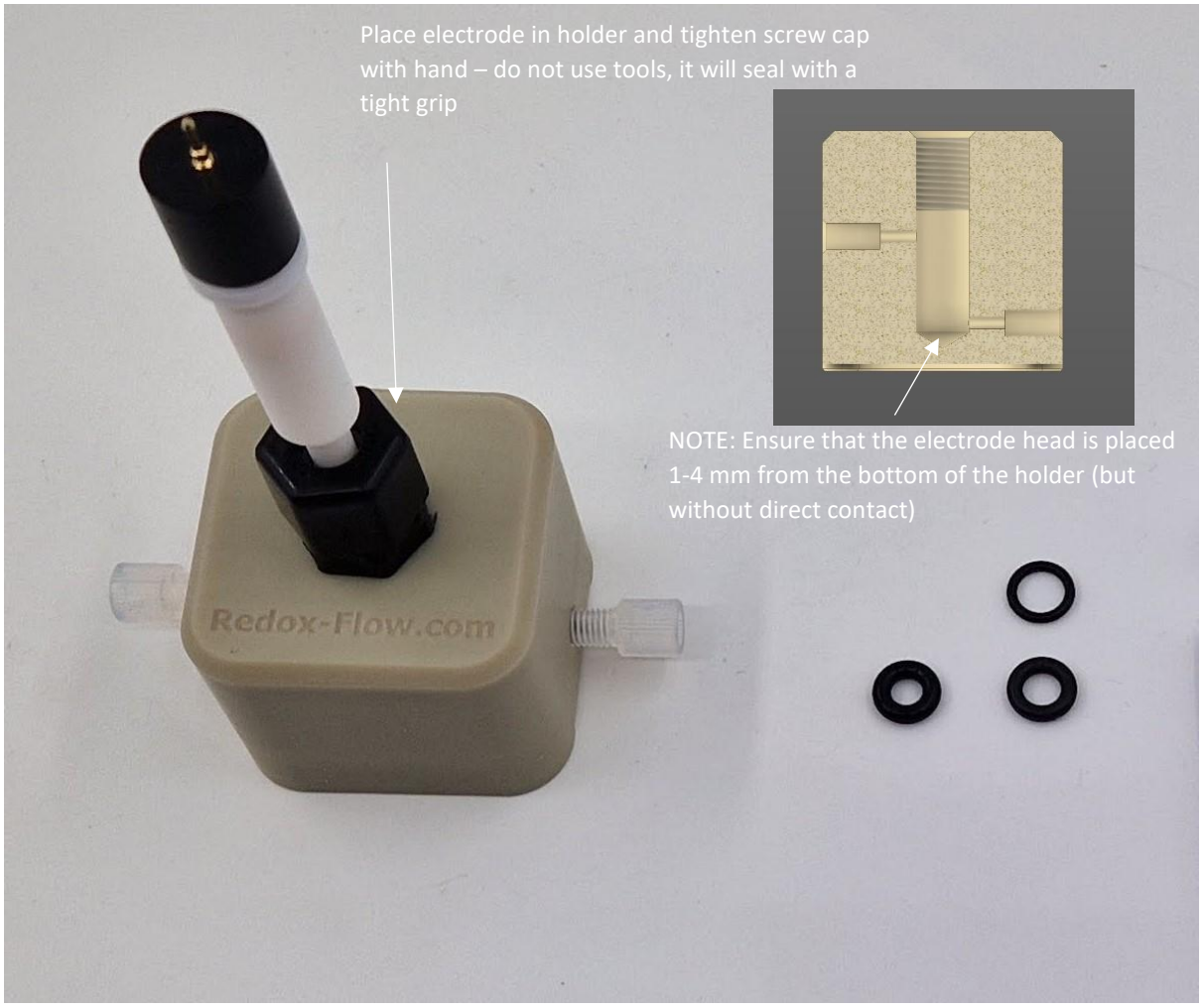


Assembly

-example is shown for a 5-8 mm electrode holder






Place electrode in holder and tighten screw cap with hand – do not use tools, it will seal with a tight grip
NOTE: Ensure that the electrode head is placed 1-4 mm from the bottom of the holder (but without direct contact)
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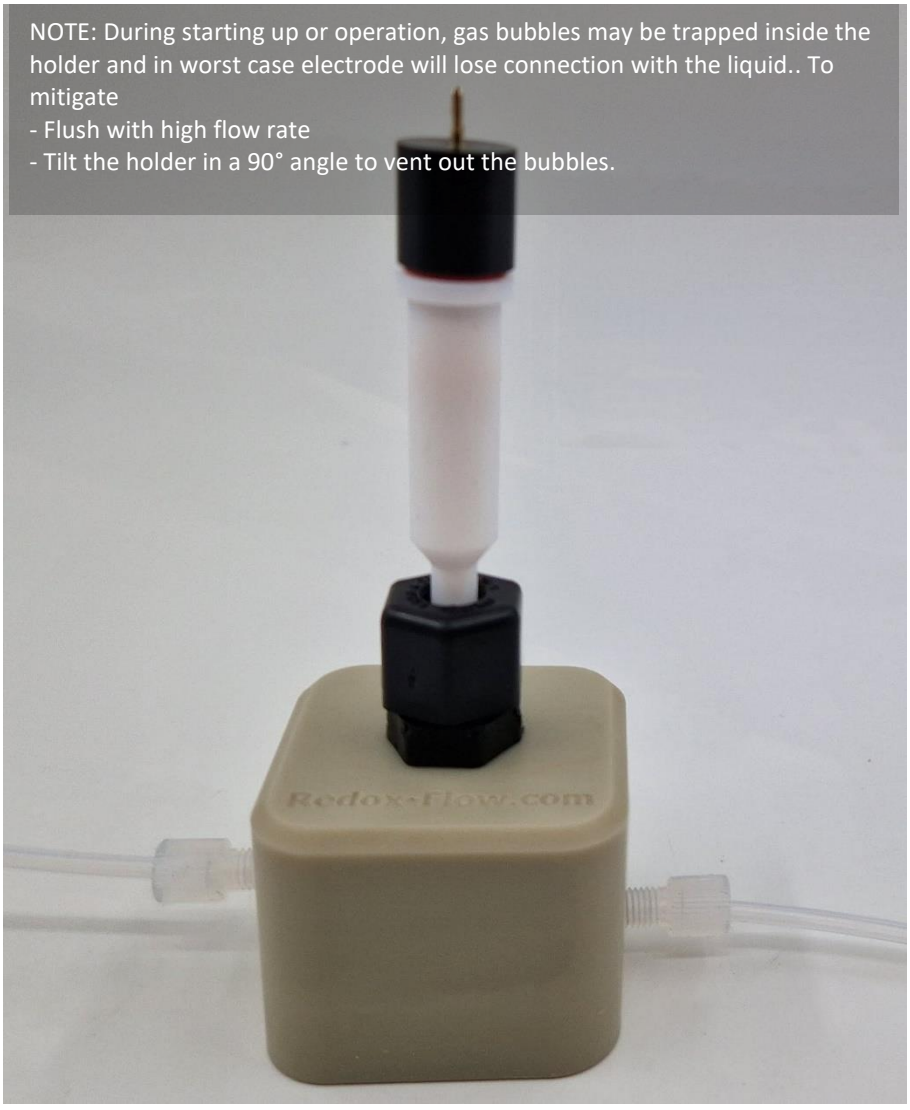
Application notes –

Flow through

Here the electrolyte is pumped through the electrode holder (as shown below). Several electrode holders can be connected in series.

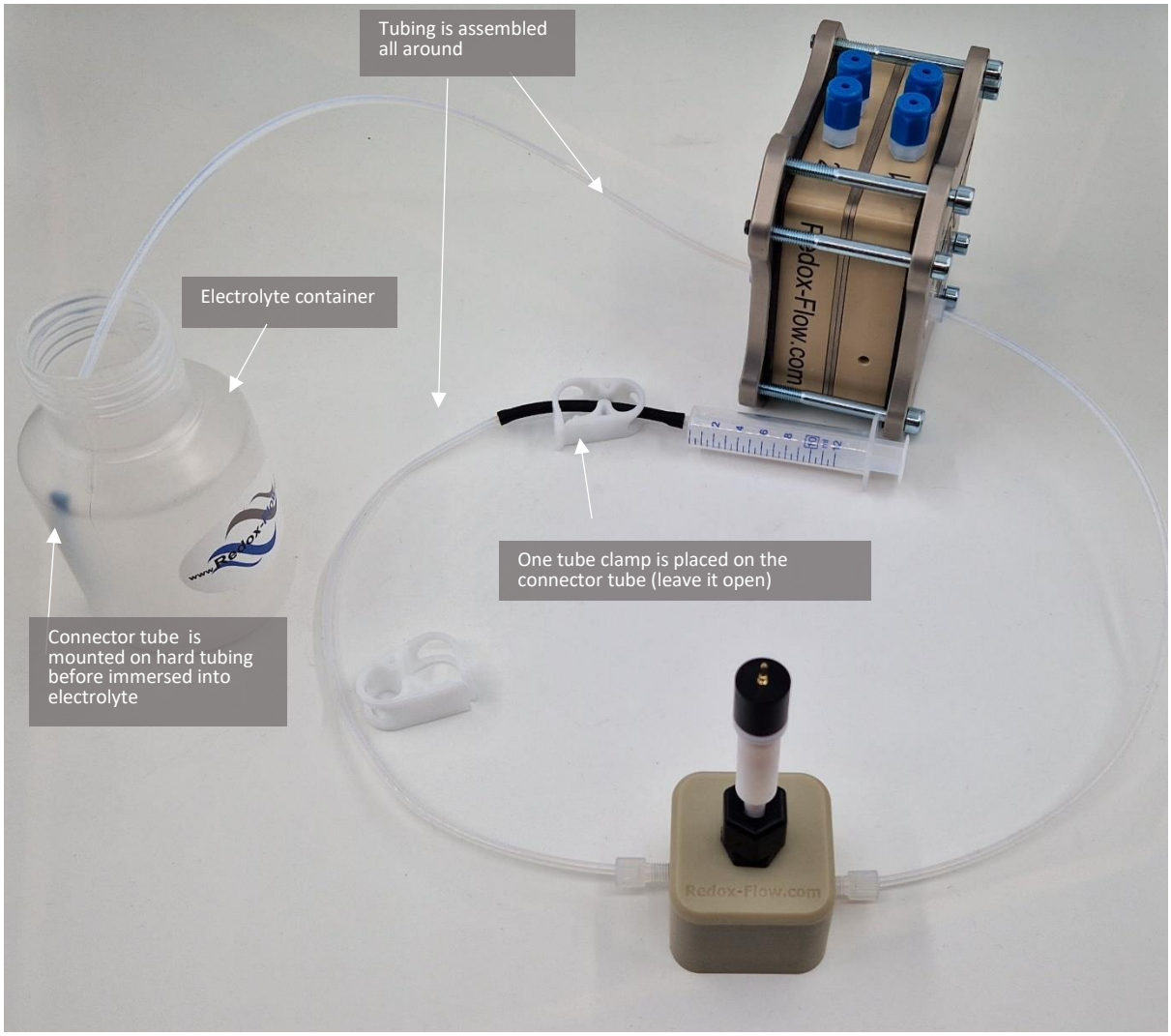


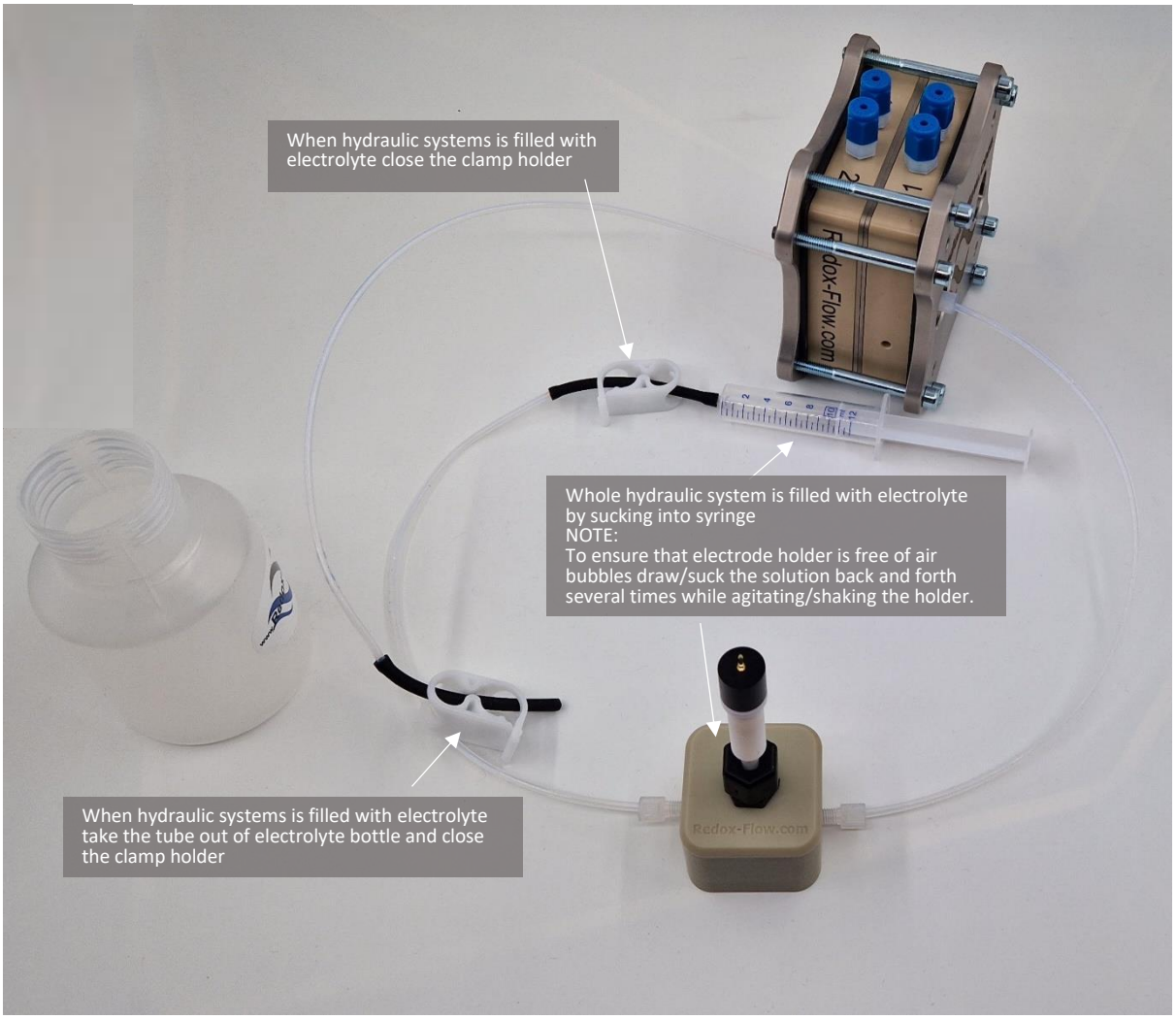
Dead-end / Luggin Capillary type

In many cases it is advantegous to mount the electrode holder in a dead-end configuration with no flow through the electrode holder. I.e.

- Luggin Capillary type setup in applications where the holder/tube works as a liquid/galvanic connection to the point for the (reference) electrode measurement
- High temperature measurements – In many cases reference electrodes cannot withstand high temperature operation. With the dead-end configuration, the electrode can be placed outside/away from heating chamber or area of high temperature

Below is an example of the assembly on an X-cell with additional ports for measurements inside the cell (see manual for the cell for more info on the cell). But the assembly is general and can be used for other applications too.




When hydraulic systems is filled with electrolyte close the clamp holder
Whole hydraulic system is filled with electrolyte by sucking into syringe
NOTE:
To ensure that electrode holder is free of air bubbles draw/suck the solution back and forth several times while agitating/shaking the holder.
When hydraulic systems is filled with electrolyte take the tube out of electrolyte bottle and close the clamp holder
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