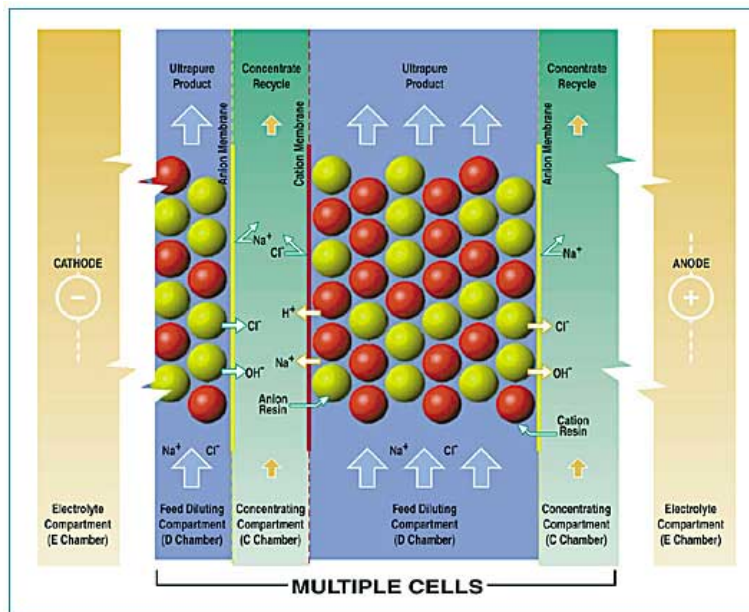


Figure 2 below illustrates the EDI process in an annotated schematic diagram.



1. **Feed water** enters the EDI stack and flows into a series of cells.
2. The system applies **DC voltage** across each cell. Positively-charged ions like sodium (Na⁺), migrate towards the negative electric current discharged by the cathode. Negatively-charged ions, like chloride (Cl⁻), migrate towards the positive electric current discharged by the anode.
3. Contaminant ions attach to their respective **ion exchange resins** and are attracted through their respective membranes into the **concentrate "C" chambers** where the ions are carried away by the concentrate flow.
4. Deionized water in the **dilute "D" chambers** flows out of the stack.
5. **Concentrate water** either recirculates back through the stack's, fed back into the system ahead of the RO, or is discharged to drain.
6. The **electrolyte to waste** stream carries away any gases formed from the water splitting reaction.
7. The **resin bed** continuously regenerates as voltage discharges, splitting water molecules into hydrogen ions. Like contaminant ions, hydrogen ions migrate through their respective membranes into the "C" chambers.
8. The **EDI control system** operates and monitors the water treatment system onsite or remotely via modem or LAN. The PLC supports three operating modes for ultimate flexibility: Automatic, Semi-Automatic, and Manual.

The Electrodeionization Process. Using this process, WPT develops a solution tailored for each project's water quality and application.