

HSSE-2/3 High Speed Solution Exchange System

Valve-based solution exchange in μsec !

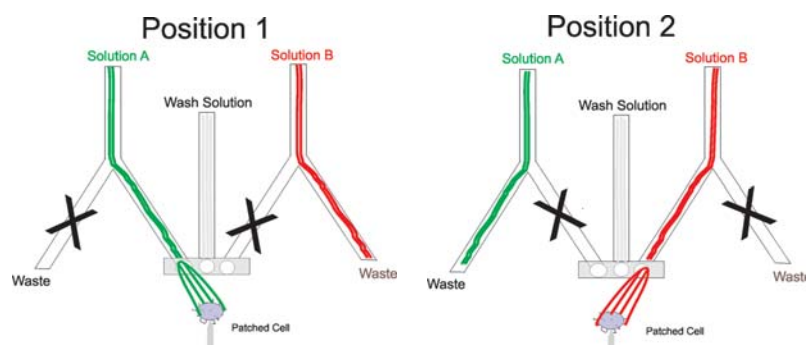
Mechanistic studies of ligand-gated ion channels require precise, high-speed solution exchange. The **HSSE-2/3** is an easy-to-use device that exchanges solutions at rates comparable to expensive piezoelectronic devices.

Advantages of the **HSSE-2/3**:

- * No moving parts near the preparation
- * No pipette pulling
- * Highly reproducible
- * 20 to 80% rise-times < 100 μs
- * Integrates easily with most data acquisition and experimental control systems
- * Built with ALA's widely used bath perfusion components



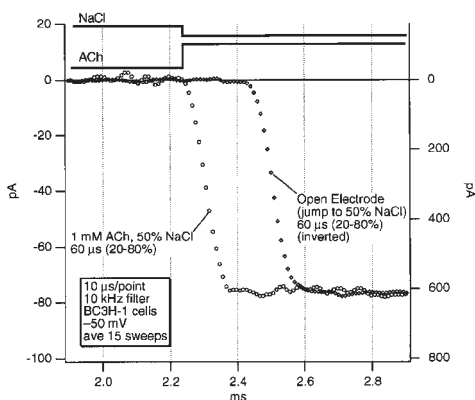
HSSE-2/3
Front End



How it works:

A single pinch valve opens and closes to release or block fluid flow in pairs of tubes (see above diagrams). Solution A and Solution B flow either to the preparation or to waste. The single valve operates in two positions, allowing A to flow to the preparation and B to flow to waste or vice versa. An additional valve allows bath solution to flow to the preparation when neither test solution is applied. Both A & B can be primed with any of four solutions from eight reservoirs.

Application of acetylcholine to outside-out patch from BC3H-1 cells containing ~75 ACh receptor channels



Data provided by J.P.Dilger, Stony Brook University

Ordering Details

ALA HSSE-2/3 High Speed Solution Exchange System

Specifications

Valve Controller Dimension	4.7" (L) x 4.25" (W) x 3.1" (H) Wt: 14.7 oz.
Power	110/220VAC external/15VDC@2.7A
Computer Control	4 x TTL high BNC inputs 1 for each valve
Manual Control	4 x Toggle Switch - on/off/mom.
Pinch Valves	3 x 12VDC/0.25A ea. - 3-Way Pinch Valve 1 x 12VDC/0.25A ea. - 4-Way Pinch Valve
Microbore Tubing	Teflon, ID=300 μm , OD=760 μm
Pinch Valve Tubing OD	.062"
Reservoirs	8 x 60ml syringe - Luer lock type