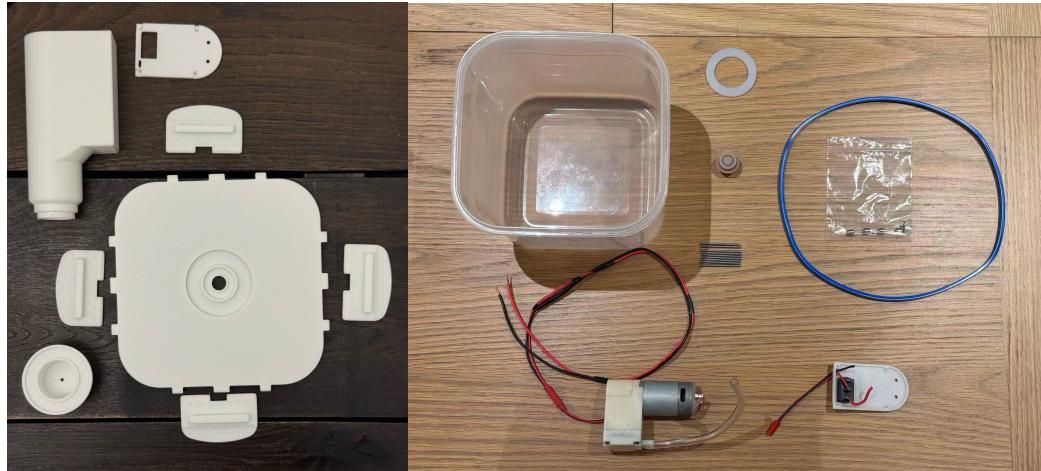


Product Manual

Assembly Instruction

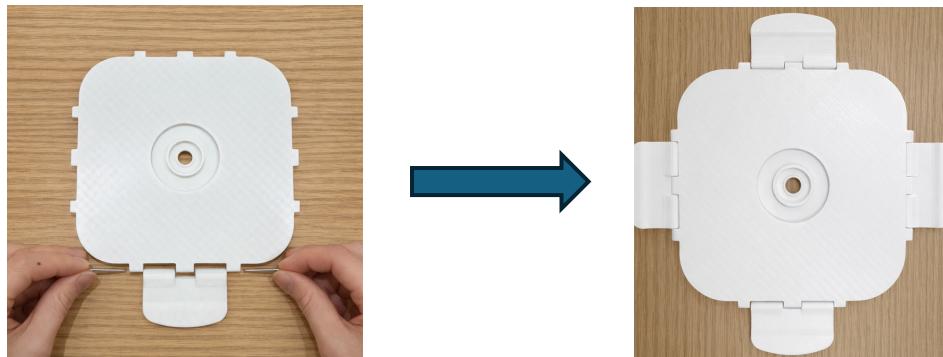
Step 1 – Fabrication & Sourcing

3D-print CAD parts and buy off-the-shelf components (containers) using CAD dimensions.



Step 2 – Latch Installation (pins)

Insert two metal pins into each latch and install all four latches consistently.



Step 3 – Seal Preparation

Place upper and lower sealing washers to reduce leakage during vacuum use.



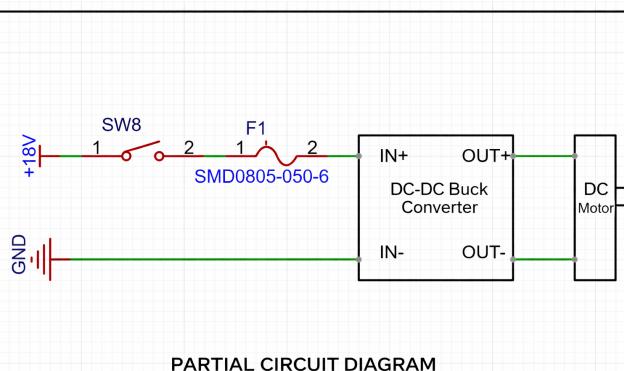
Step 4 – Valve Insertion & Fit-check

Insert the valve, close the lid, and check latch engagement and tightness.



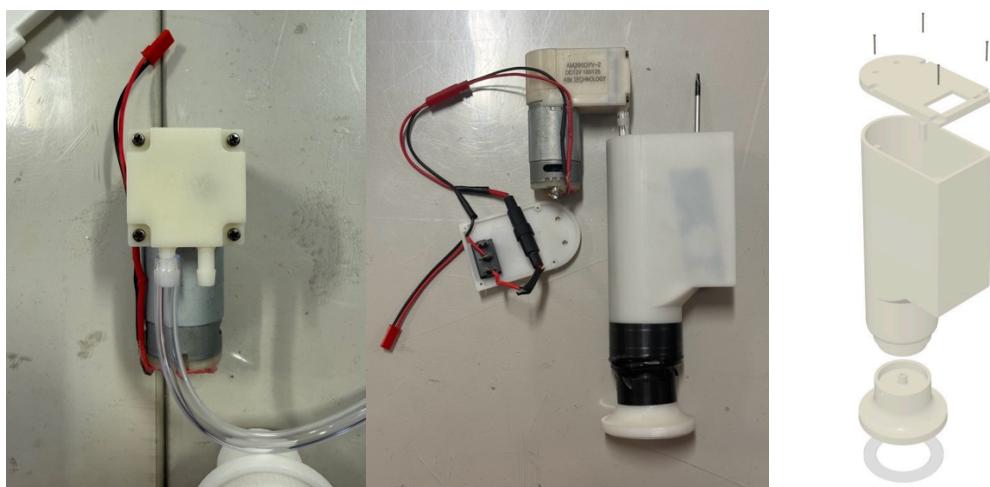
Step 5 – Wiring & Soldering

Wire per diagram → solder.



Step 6 – Circuit Check & Install

Fuse-protected check (stable output) → fit the verified circuit into the CAD housing and mount the pump.



Usage Instruction

Step 1 – Pre-use Check

Quick check before every use to ensure sealing and safe operation.

- *Ensure the one-way valve is fully inserted and the valve seat is clean.*



Step 2 – Close and Latch (x4)

Create uniform gasket compression to minimise leak paths.

Step 3 – Connect Pump to Valve + Connect 12V Power

Align the nozzle, then power the pump safely using an external 12V DC supply.

- *Align the pump nozzle with the central valve port and press/hold to seal the interface.*



Step 4 – Pump Down (Evacuate to Target Vacuum)

Evacuate to the measurable target vacuum level.

- *Switch the pump ON, Pump until reaching the target $\Delta p \approx 50 \text{ kPa}$, continued $\sim 30 \text{ seconds}$.*
- *Switch OFF, then remove the pump from the valve.*



Step 5 – Store (Food-safe use)

Vacuum helps shelf-life, but chilled storage and sensible time limits still apply.

- *Store food as appropriate (typically chilled) and label date/time.*
- *Do not store hot food under vacuum (allow to cool first).*

Step 6 – Release (Vent), Open, and Serve

Always vent first to avoid sudden opening forces and gasket damage.

- *Vent via the valve first: Pinch the silicone valve firmly, then gently pull upward to let air in and equalise pressure.*
- *Unlatch the four latches.*



Step 7 – Cleaning (Easy clean + dishwasher use)

Clean seal/valve areas thoroughly to maintain retention performance.

- *Wash container + lid with warm soapy water.*
- *Dishwasher option: run a normal/main cycle (typically 55–65 °C), then check no visible residue/stain remains.*
- *Dry fully before reassembly.*
- *Do not dishwasher-wash electronics/pump module; wipe with a damp cloth only (keep dry).*



Safety Notes:

- Food contact materials should comply with relevant food-contact material requirements; keep documentation (BOM + supplier declarations) and avoid unverified coatings/adhesives.
- Follow vacuum-packaged chilled food safety guidance and avoid long storage without appropriate controls.