

# HALO All-in-One Units

## Filling Guide + Best Practices

VERSION 1.0

### Before You Fill: Compatibility Testing

Send 5–10 mL of your oil for lab verification. We'll test oil compatibility with the Jona device, advise ideal fill temperature & suggested wattage, and help tune for your formulation.

### Oil Viscosity Targets

At the time of injection, **your oil should reach a viscosity of 2,000–3,000 mPa·s**. Pre-heat only as needed to achieve this; excessive heat can thin oil and increase leakage risk.

*Don't have a viscometer?* Send 5–10 mL - we'll measure viscosity and provide the exact fill temperature for your formulation.

### Filling

**KEEP UNITS FULLY UPRIGHT (90°), IDEALLY IN THEIR FOAM TRAYS, AT EVERY STAGE (PRE-FILL, POST-FILL, PRE-CAP, POST-CAP).**

### HANDLING AND TRANSPORT PRECAUTIONS

#### Personal Air Transport

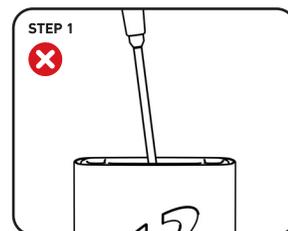
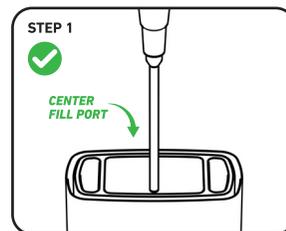
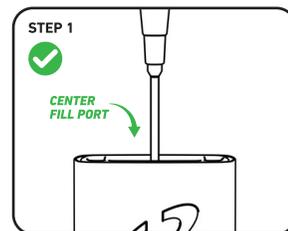
- Carriage of this device by air is **not recommended**. Cabin pressure variations during flight **may result in oil leakage**.
- If air transport is unavoidable, the **device must be enclosed in sealed pressure-resistant packaging** to minimize the risk of leakage.

#### Vehicle Storage

- Do not** leave the device inside a vehicle **for more than one hour** without active climate control.
- Do not** expose the device to **direct sunlight** or place it in a **high-temperature environment** (e.g. parked vehicles under sun exposure).
- Rapid or **extreme temperature fluctuations** may cause internal pressure changes, **leading to potential oil leakage**.

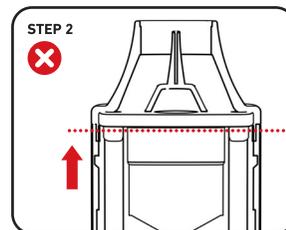
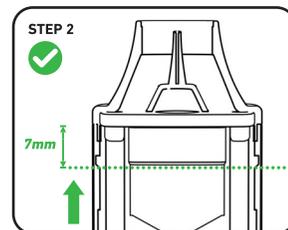
### STEP 1 – Proper Needle Insertion

Insert the needle into the center hole of the silicone plug (fill port). Do not insert along the side walls - those are airways. Insert no deeper than  $\frac{2}{3}$  of tank depth.



### STEP 2 – Fill to the Correct Level

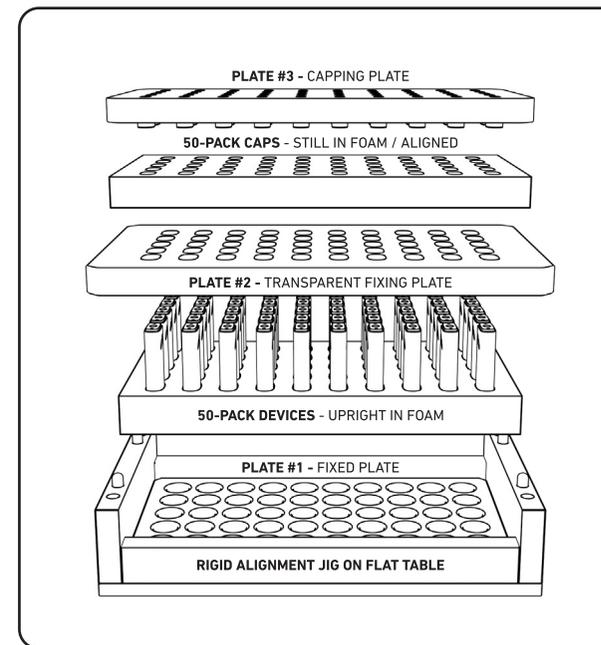
Fill to 7 mm below the point where the device connects to the mouthpiece.



### Capping

#### STEP 3 – Setup (alignment & Jigs)

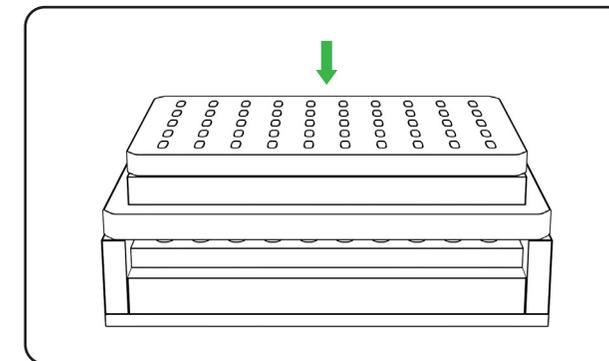
- Place the entire 50-pack (devices upright in foam) into the base of the rigid alignment jig.
- Place **Plate #1** - Fixed Plate over the 50 units.
- Place **Plate #2** - Transparent Fixing Plate over **Plate #1**.
- Place the entire 50-pack of caps (still in foam) on top of **Plate #2** in a perfectly aligned position. Align the device side windows to the cap windows on the same axis; verify all units are fully aligned.
- Place **Plate #3** - Capping Plate over the caps.



#### STEP 4 – Press

With the jig holding the devices square, use the machine press to push the mouthpieces straight down until they snap flush - **no rocking or tilting**. Cap within 2 minutes of filling.

**Quality Control:** full snap, no gasket pinch, no visible gap.



### Storage & Transport

- Keep upright at 90° (use foam trays whenever possible).
- Store cool ( $\leq 75^\circ\text{F}$ ); avoid direct sunlight and hot vehicles.
- FIFO rotation for multiple batches; avoid air shipment of filled units when possible.

#### WARNING — PRIMARY CAUSES OF LEAKAGE

- Overfilling (above bottom of silicone sealing plug)
- Filling too hot (oil thins and may flood/bleed)
- Misalignment during capping (gasket pinch / incomplete snap)

# halo

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