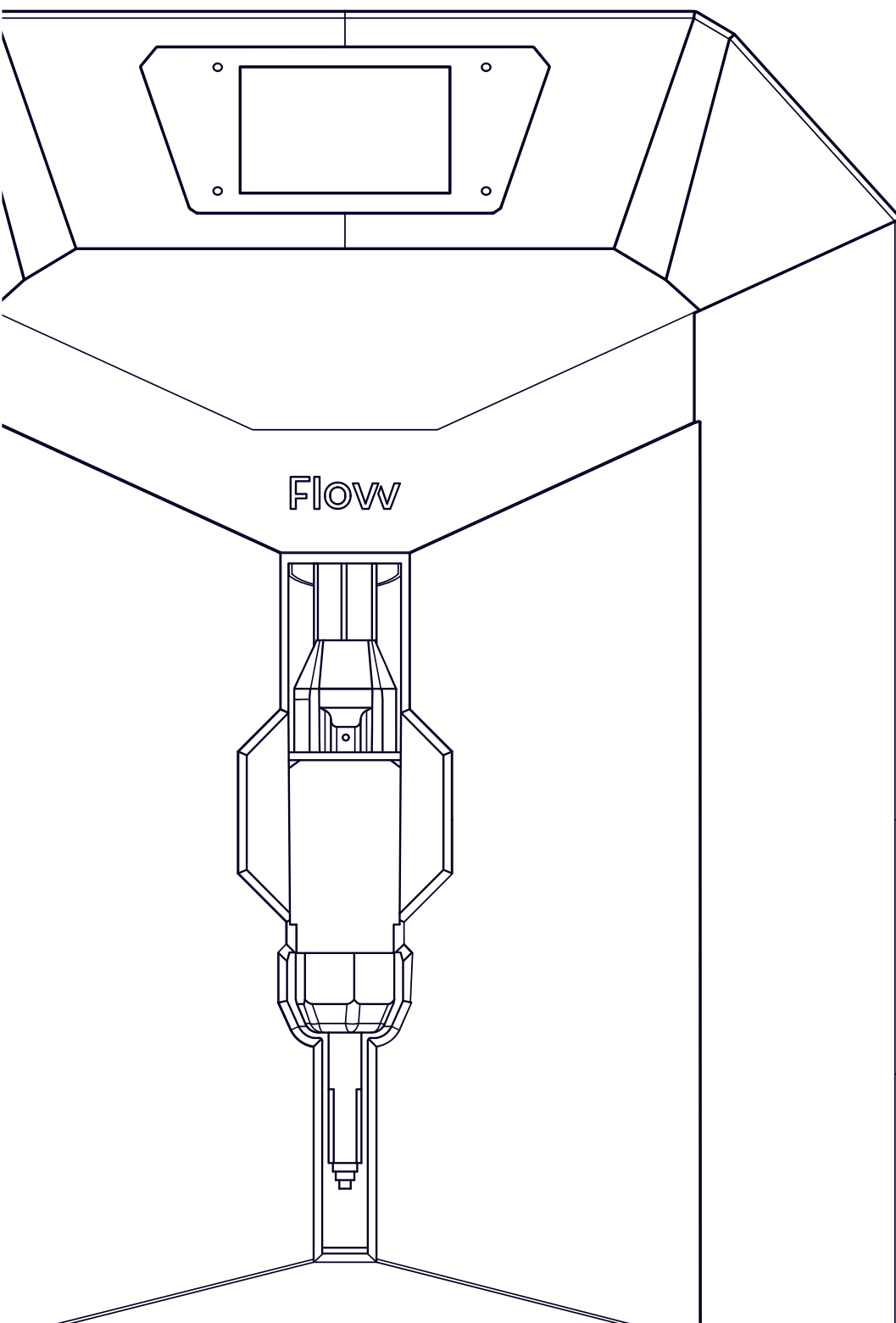




Flow

User Manual





Thank you for purchasing

Flow

by

Neckog Industries

After receiving your product, please check that all components are intact and that the accessories are complete. If you notice any damage or missing parts, please contact us promptly at **support@neckog.com**

To ensure optimal performance, each unit undergoes thorough testing before leaving our facility. Minor surface imperfections or slight scratches may be present upon arrival — this is normal and does not affect functionality.

Thank you for your support!

Neckog Industries Team

- Please keep the Flovv and its accessories out of the reach of children.
- Please fill the resin tank no less than 1/3 of its volume, but do not exceed the MAX line position.
- Please place the device in a dry environment and protect it from rain and moisture.
- If you run into an emergency during use, please turn off the power supply first.
- Please use the device indoors and avoid direct sunlight and a dusty environment.
- Please keep the original packaging box for 30 days for return/exchange (only original packaging boxes are accepted).
- If the injection fails, you need to clean the excess cured resin in the system and change the resin, otherwise, it may cause damage to your device.
- When operating the Flovv, please wear a mask and gloves to avoid direct skin contact with the chemicals.

If you have any problems with the device, please contact us at **contact@neckog.com**. Please do not disassemble or modify Flovv devices by yourself, otherwise, the warranty will expire, and damage caused by personal operating errors will need to pay for repairs.

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Packing List

Flow Injection Module

5 spare Nozzles

Power Adapter

Prying Tools

Injection Gun

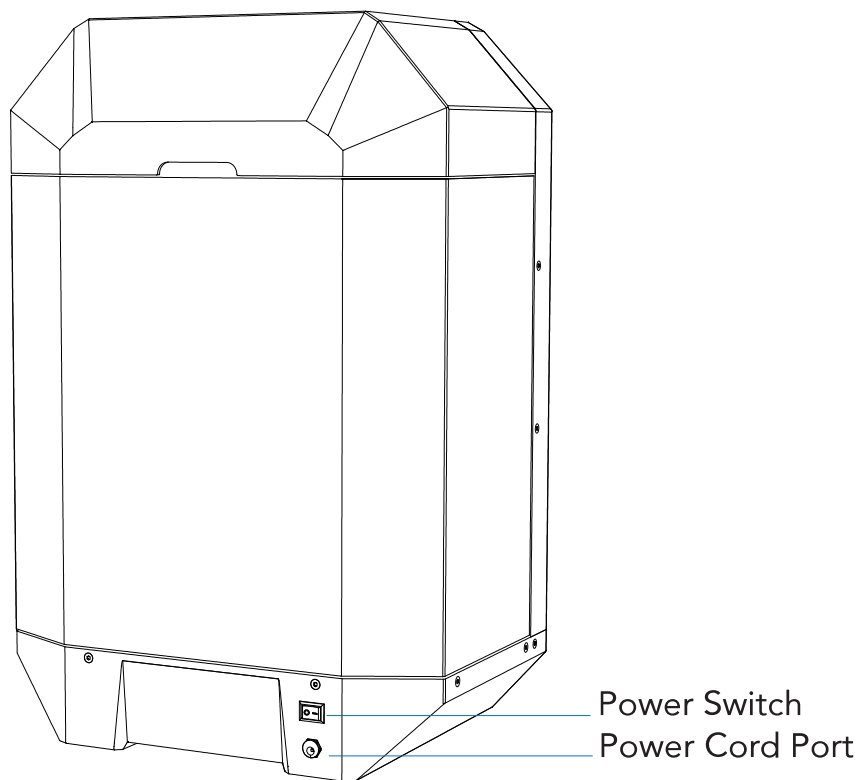
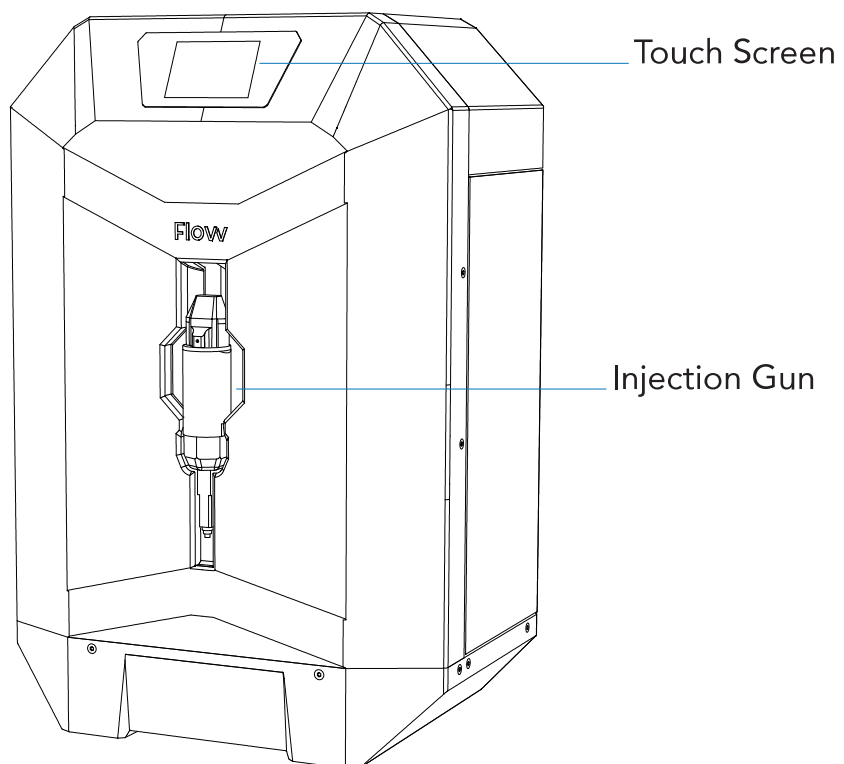
Mold Release

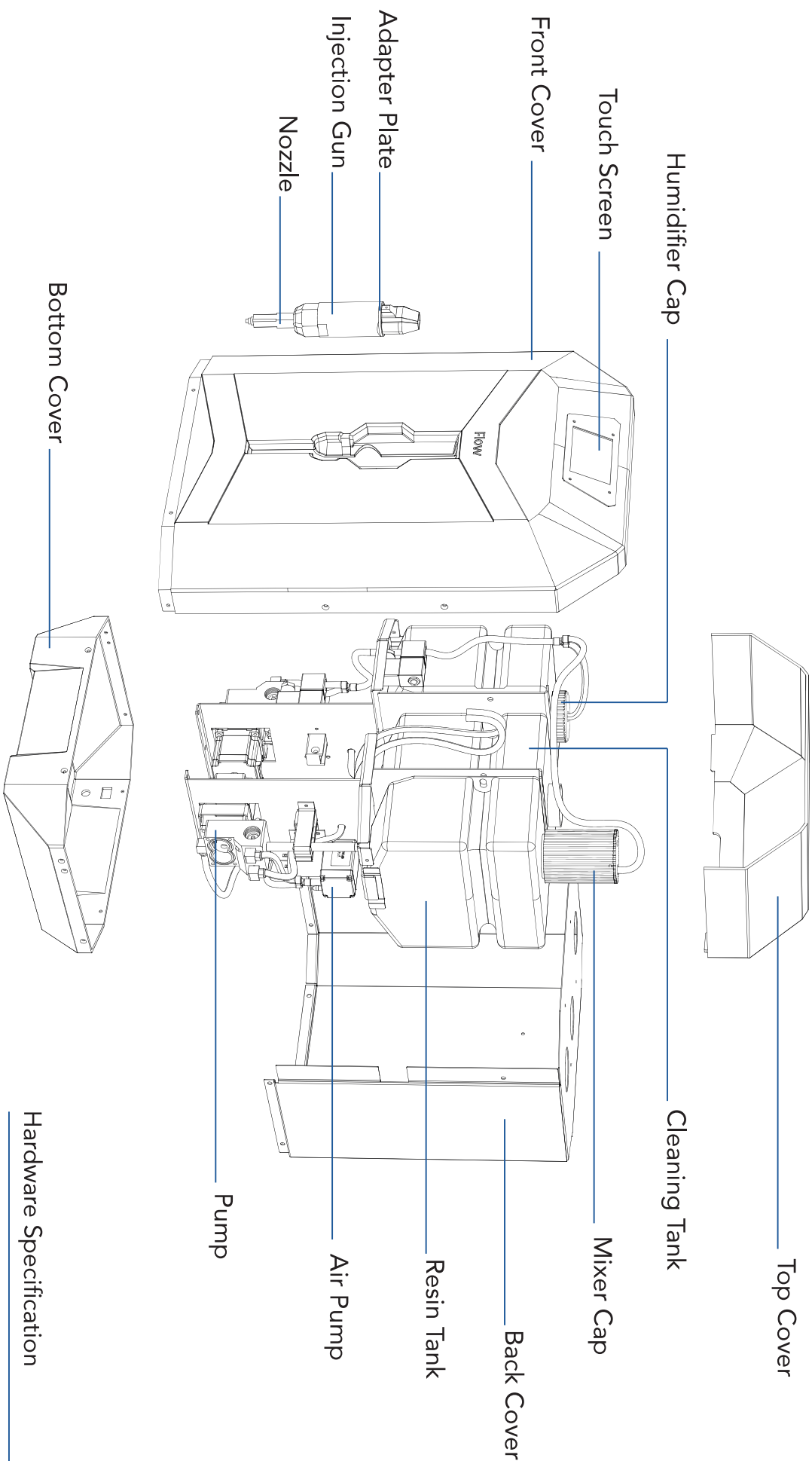
Resin Tanks (A & B)

User Manual

Cleaning Tank

Working pad





Hardware Specification

Dimensions 327.4mm (L) × 329.2mm (W) × 548mm (H)
Injection Volume Adjustable Based on Material & Mold Size
Package Size
Gross Weight
Net Weight 11.2 KG

To ensure smooth operation and prevent injection failures, perform these basic checks;

- Ensure Resin A and B Tanks are properly installed and contain sufficient material.
- The resin levels should be above the minimum fill line but should not exceed the MAX line to avoid overflow.
- If switching between different resin types, you can either clean the tank thoroughly to prevent cross-contamination or use a QuickSwap Tank for faster material changes.

Inspect the Nozzle & Injection Gun

- Always clean the nozzle immediately after each use, before the material hardens.
- Use Neckog Cleaning Fluid to flush out any uncured resin or silicone from the nozzle.
- If the nozzle becomes clogged due to hardened resin or silicone, replace it with a new one.

Check Material Compatibility

- Always use the correct resin type for your injection process.
- If switching materials, flush the system completely before injecting a different resin.

Confirm the Power & Connections

- Ensure the power supply is connected properly (110-220V, 50/60Hz, 24V 6A).
- Verify that the injection gun is securely attached and that there are no loose connections.

Check the Cleaning Tank

- Use Neckog Cleaning Fluid for optimal cleaning and maintenance.
- Ensure the cleaning tank is filled with enough fluid.

Before Each Use

Routine Maintenance

Nozzle & Injection Gun Cleaning

- After every use, flush the nozzle and tubing with Neckog Cleaning Fluid to prevent resin buildup.

Cleaning Tank Maintenance

- Use Neckog Cleaning Fluid in the cleaning tank for effective resin removal.
- Replace the cleaning fluid when it becomes cloudy or contaminated.

Resin Tank Care

- Drain and clean the tanks periodically.

Environmental Considerations

- Keep the device in a dust-free, dry area, away from direct sunlight.
- Always operate Flowv in a ventilated space and wear gloves and a mask when handling resins.

Preparing the Injection Process

Physical Setup Overview

Before using Flovv, complete the following setup steps

- Position the device on a stable, ventilated surface.
- Ensure the mold is securely placed.
- Ensure the QuickSwap Tanks for Resin A and Resin B, are properly filled.
- Ensure the injection gun is securely attached and the nozzle is clean.
- Open the Cleaning Tank Cap and fill it with Neckog Cleaning Fluid.
- Double-check all tubing, tanks, and connections to prevent leaks.

Tank & Nozzle Notes

- Flovv comes ready with Resin Tanks A & B, a Cleaning Tank, and a pre-installed nozzle — no need to set them up before your first injection.
- If you ever need to change the material or replace a clogged nozzle, these components can be easily swapped.
- *For detailed steps, see “Resin Tank & Cleaning Tank Replacement” and “Nozzle Replacement” later in this manual.*

Powering On the Device

Plug in the power adapter and turn on the power switch.

Selecting the Resin Type

Flovv provides five in-house resin options.

- Rigid
- Rigid Foam
- Flexible
- Flexible Foam
- Silicone

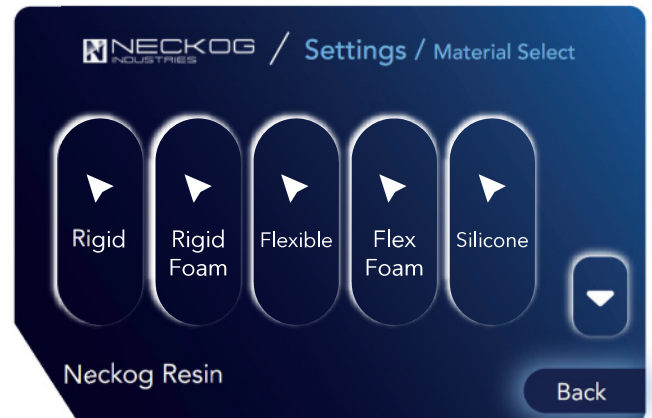
On the Touchscreen

- Navigate to **Settings>Material Select**
- Choose the **resin type** based on your project

Third-Party Resins

For users who prefer third-party resins, you can;

- Manually adjust resin parameters (flow rate, retraction and curing time)
- Save custom material settings under **Custom Material** slots.



Tip: After adding a new resin, run a test injection to confirm proper flow and curing settings.

Quick Setup Verification Checklist

Before proceeding with the injection process, ensure the following:

- **Nozzle:** Securely installed, tightened with three screws, and calibrated.
- **Resin Tanks (A & B):** Properly inserted, connected, and filled with material.
- **Tank Caps:** Firmly closed to prevent contamination or evaporation.
- **Cleaning Tank:** Connected, filled with Neckog Cleaning Fluid, and properly detected.
- **All Tubing Connections:** Secure and free from leaks.
- **Power On:** Device is turned on, and all components are successfully detected.

Injection

Selecting Injection Mode: Manual vs. Automatic

Physically: Ensure the mold is in place and the nozzle is clear.

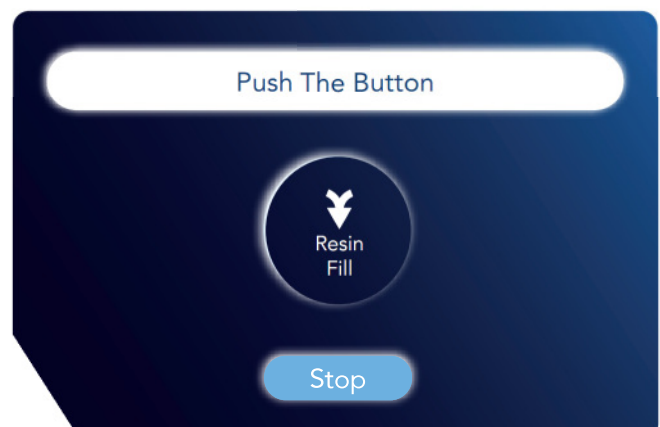
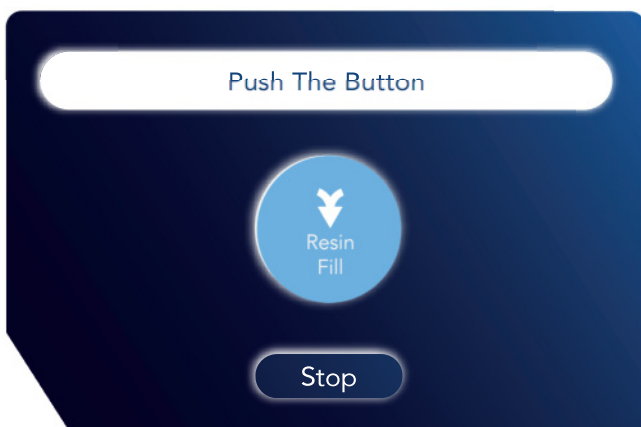
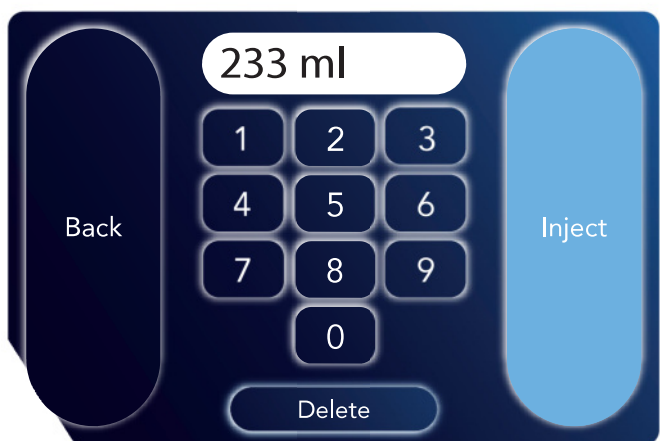
Flovv supports two injection modes:

Automatic Injection Mode

Use this mode if you know exactly how much fluid is needed for your mold.

On the Touchscreen

- Tap **Inject**.
- Enter the desired fluid volume.
- The system will prompt: "**Prime the Nozzle?**"
- Confirm to push the material up to the nozzle.
- After priming, you'll be directed to the **Dynamic Flow Control** screen.
- You can now **trigger the injection** by pressing the **injection handle**.
- Adjust the **flow rate** in real time using the screen sliders.
- Press **Stop** when the injection is complete.

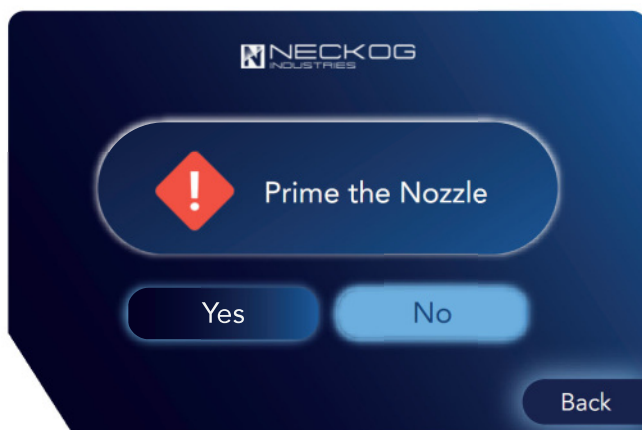


After the injection is complete, the system will prompt you to run a cleaning sequence. Select **Yes** to prevent resin from hardening in the nozzle.

Manual Injection Mode

Use this mode if you need real-time control over resin dispensing or don't know the exact fluid amount needed.

- On the Touchscreen
- Tap **Inject**.
 - Skip entering a volume to enable free-flow mode.
 - Select **Inject**.
 - The system will ask: **"Prime the Nozzle?"**
 - Confirm to begin priming.
 - After priming, the screen switches to **Flow Control Mode**.
 - Press and hold the **injection handle** to start dispensing resin.
 - Adjust the flow rate from the screen sliders.
 - Release the handle when you're done — or tap **Stop** on the screen to end the injection.



After manual injection, the system will ask if you want to run a cleaning sequence. Select **Yes** to avoid clogging.

Tip: Manual injection is ideal for custom resin applications, prototyping, or when the required resin amount varies.

Dynamic Flow Control

Adjust Dynamic Flow Control if needed during injection

On the Touchscreen

- Modify the **flow rate** manually using the controls
- Press *stop* to halt injection immediately if necessary



Once the injection is done, the system prompts you to **run the cleaning sequence**. Choose **Yes** to start cleaning immediately.

Post-Injection Processing

Physically:

Allow the resin to cure based on material specifications.

Move the mold to a post-curing chamber if required.

Carefully remove the injected part using mold release tools.

Cleaning & Maintenance

Physically:

- **Flush the nozzle** immediately after each use using the **Cleaning Sequence**.
- If the nozzle clogs due to hardened resin, **replace it with a new one**.
For detailed steps, see “Resin Tank & Cleaning Tank Replacement” and “Nozzle Replacement” later in this manual.
- Clean the **injection gun, resin tanks and mold area** thoroughly.

On the Touchscreen

- Go to **Control>Cleaning**
- Select **Run Cleaning Sequence** to clean the entire system.



After Cleaning

If any cleaning fluid remains in the nozzle, select **Air Purge** to run air through the system and remove any residual fluid.

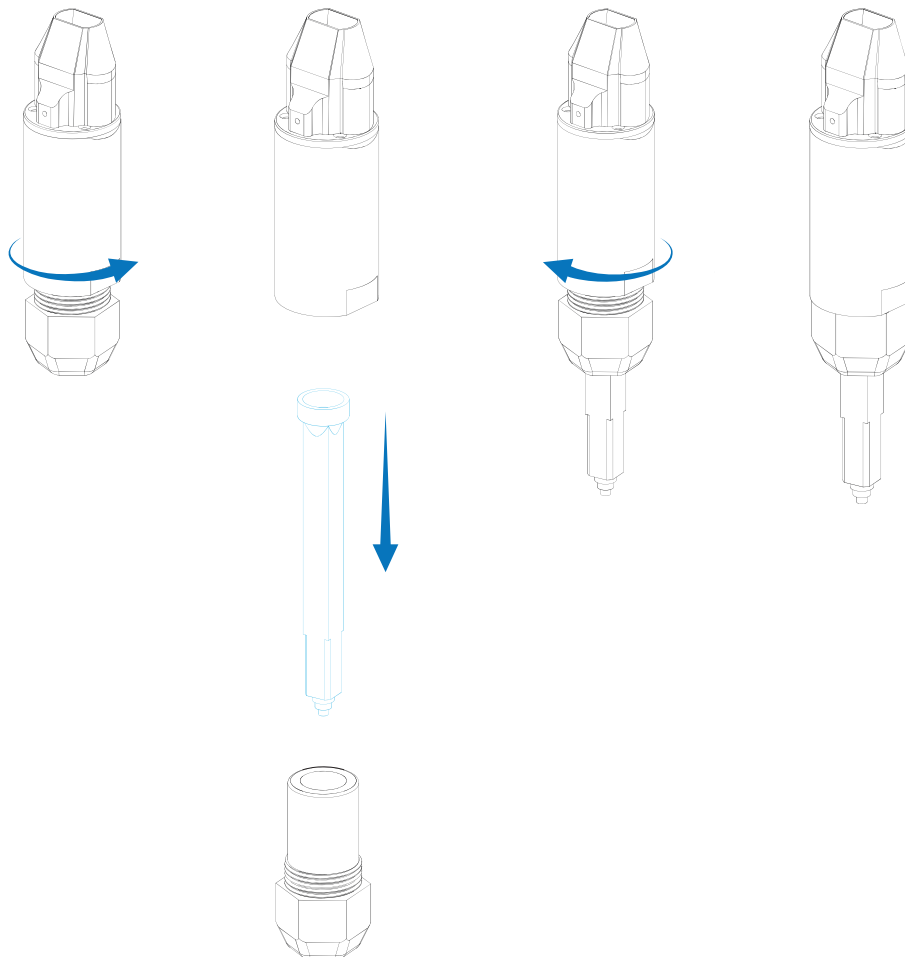
Use **Cleaning Fluid Purge** to run only cleaning fluid for deeper cleaning.

Tank & Nozzle Replacement

Nozzle Replacement & Secure Attachment

Proper nozzle replacement is essential for leak-free operation and precise injection.

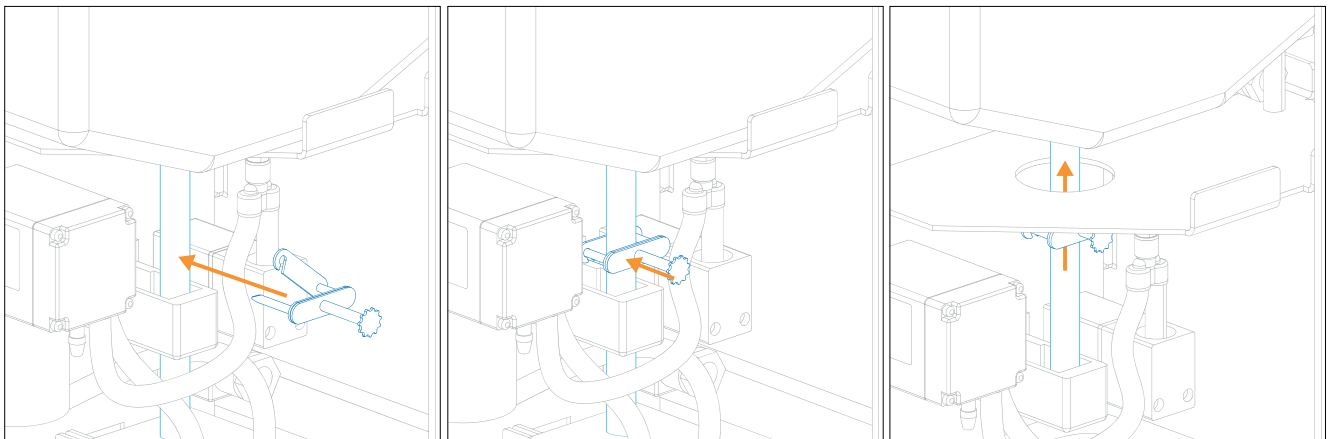
- Unscrew the injection handle carefully.
- Remove the existing nozzle from the handle.
- Place the new nozzle into the slot.
- Align the nozzle with the adapter plate on the injection gun.
- Ensure the nozzle is tightly fixed to prevent leaks.



Resin Tank & Cleaning Tank Replacement

Resin Tanks (A&B) Replacement

- Open Flowv's top part and remove the outer casing.
- You will see the tanks placed inside the unit.
- Connect the clamp to the tubes under the tanks.
- Use Neckog's mold prying tool to gently disconnect the tube connection.
- Remove the existing tank (A or B) gently.
- Insert the new tank securely into its slot.
- Connect the tubing firmly.
- If your tank is already filled with resin, clamp the tubing before connecting.
- Fill the tank with the correct resin if it's not pre-filled.
- Close the tank cap tightly.



Cleaning Tank Replacement

- Locate the Cleaning Tank slot, positioned between the resin tanks.
- Gently remove the current Cleaning Tank.
- Insert the new Cleaning Tank securely into the compartment.
- Connect the tubing from the Cleaning Tank to the system.
- Ensure a firm connection to avoid leaks.
- Fill the Cleaning Tank with Neckog Cleaning Fluid up to the recommended level.
- Close the tank cap tightly to prevent cleaning fluid from evaporating.

Advanced Features & Adjustments

Tank Emptying & Fluid Change

On the Touchscreen

- Tap **Empty Tank A** or **Empty Tank B**
- The system will **eject any remaining fluid**.
- Hold a **bucket under the nozzle** to collect the fluid

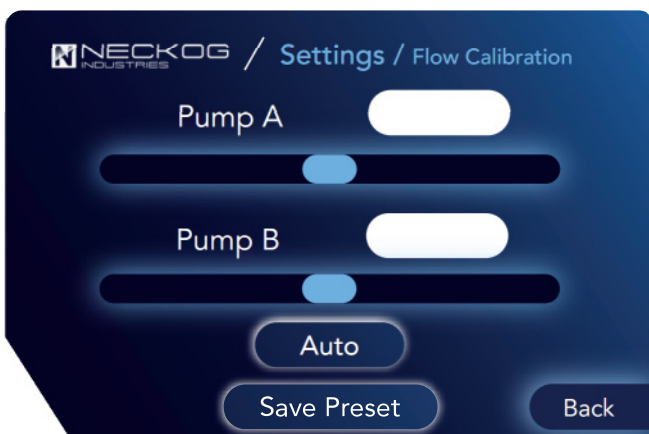


Tip: Store unused resim properly if you plan to reuse it.

Pump Adjustment & Flow Offsets

On the Touchscreen

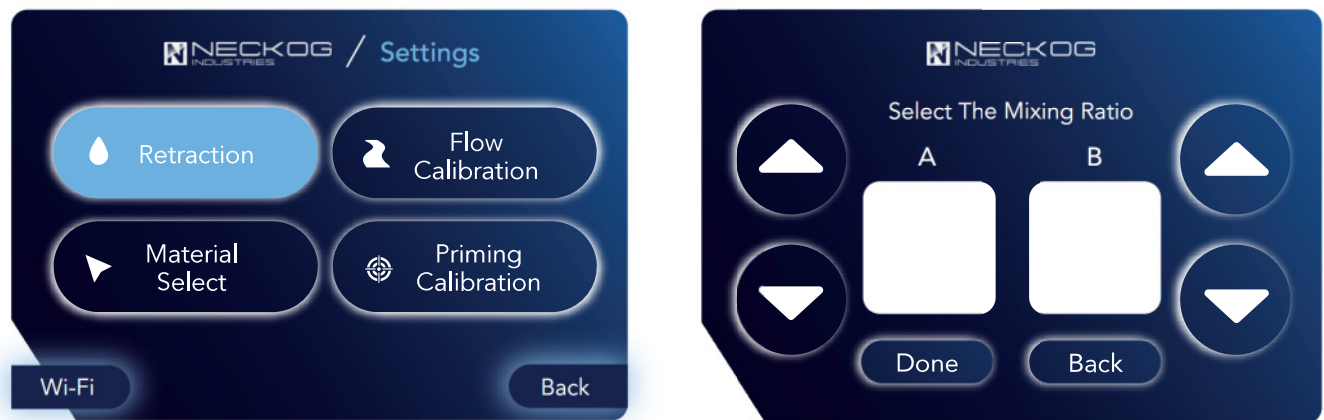
- Go to Settings>Flow Calibration
- Adjust the flow rates for Pump A and Pump B to
- create a custom offset
- Tap Save Preset to store your settings
- Activate Dynamic Flow Control for precise injection
- adjustments



Tip: After adjusting pumps, always run the Cleaning Sequence and Air Purge to clear the system.

Retraction Adjustment

Proper retraction ensures precise injection and minimizes material waste.



On the Touchscreen

- Go to **Settings > Retraction**.
- Adjust the retraction value based on the resin type and your injection needs.
- **Save the settings** and test with a small injection.

Tip: **High retraction** is recommended for low-viscosity resins to prevent dripping.
Low retraction is ideal for thicker resins that might clog if too much material is pulled back.

Function of Retraction

Prevents Dripping: Pulls back a small amount of material after injection to stop leaks.

Reduces Material Waste: Ensures only the required amount of resin is dispensed.

Improves Precision: Helps maintain cleaner injection by avoiding unwanted residue on the mold.

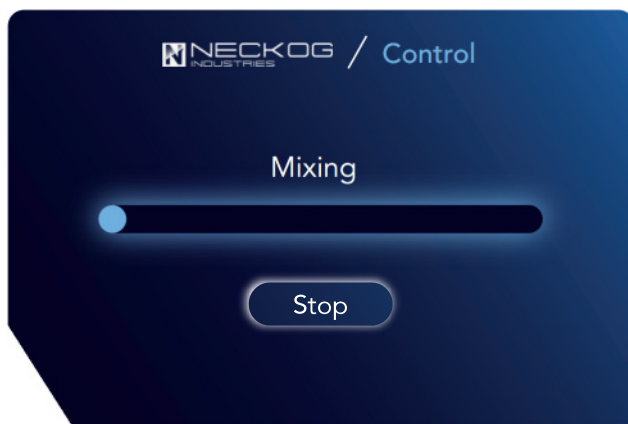
Optimizes Injection Flow: Reduces pressure build-up in the system, making the next injection smoother.

Color Mixing in Tank A

Flowv allows users to mix colors directly inside Tank A to achieve a consistent and uniform color before injection.

On the Touchscreen

- Go to **Settings > Material Select**
- Choose **Resin A** and confirm it is correctly filled.
- Add **color pigments or dyes** directly into **Tank A**
- Tap **Mix Fluid** to start the automated mixing process
- Adjust the **Flow Control** settings to ensure an even distribution of color.



Tip: If using color pigments, always mix well before injection to avoid uneven color distribution in the final part.

Using Third-Party Resins

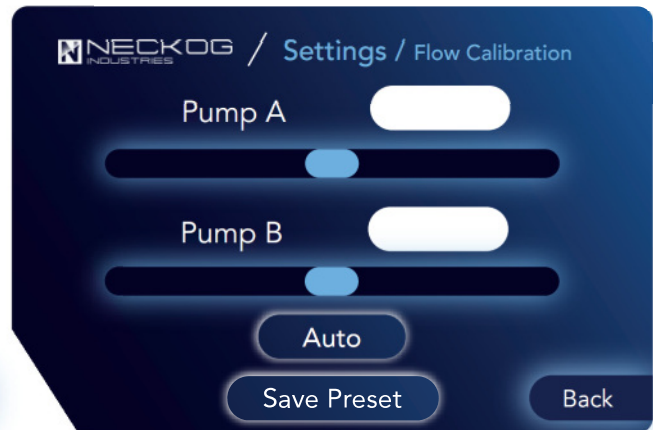
Flowv not only offers in-house resin options but also supports third-party resins, giving users the flexibility to work with a variety of materials.



Steps to Add a New Resin:

On the Touchscreen

- Go to Settings > Flow Calibration
- Adjust the Pump A and Pump B flow rates based on the third-party resin's specifications. (Flowv supports 1:1 ratios for precise control.)
- Choose one of the available Custom Material Slots.
- Adjust the pump flow rate, retraction setting and curing time as needed.
- Tap Save Preset to store your custom settings. Flowv will automatically apply these parameters during the injection process.



Tip: After adding a third-party resin, always run a test injection to ensure that flow rates, curing times and other settings are optimal for your project.

Troubleshooting Guide

Issue	Possible Cause	Solution
Injection not starting	Low power or loose connection	Check power source and ensure secure connections
Uneven or failed injection	Nozzle blockage or improper resin mix	Clean nozzle, check resin tanks and flush the system
Slow or incomplete injection	Clogged tubing or nozzle	Perform cleaning cycle and check tubing for blockages
Cleaning tank not working properly	Dirty or old cleaning liquid	Replace with fresh Neckog Cleaning Fluid and clean the tank

FAQ

1. Why is the injection not starting?

- Check that both resin tanks are filled and detected.
- Verify that the nozzle is clean and installed correctly.
- Confirm that the power is on and all connections are secure.

2. Why is resin leaking from the nozzle?

- The nozzle may be loose. Tighten the screws securely.
- Check the retraction settings under Settings > Retraction and adjust to prevent dripping.
- Ensure that the nozzle is clean and free of hardened resin.

3. Why is the cleaning sequence not running?

- Confirm that the Cleaning Tank is installed and filled with Neckog Cleaning Fluid.
- Go to Control > Cleaning and select Run Cleaning Sequence.
- Check for clogs in the tubing or nozzle.

4. Why is the injection flow inconsistent?

- Adjust flow rates under Settings > Flow Calibration.
- Ensure both Resin A and Resin B tanks are filled and the tubing is clear.
- Run the Air Purge function to remove any trapped air.

5. Why are the resin tanks not detected?

- Ensure that tanks are properly seated in their designated slots.
- Check for any loose tubing connections.
- Go to Settings > Material Select to confirm tank detection.

Machine Maintenance

- **Always use Neckog Cleaning Fluid** for cleaning to maintain system integrity.
- **Clean the nozzle after every injection** to prevent resin buildup.
- **Inspect all tubing connections regularly** for leaks or blockages.
- **Check and tighten all screws and attachments** periodically to prevent loose components.
- **Store Flovv in a dry, dust-free environment** when not in use.
- **Run the cleaning sequence after every session** to keep the system in optimal condition.
- **Apply lubricant to moving parts** as recommended every 2-3 months.

Warranty Statement

- **Flovv is covered by a 1-year limited warranty** from the date of purchase, covering defects in materials and workmanship.
- **The warranty excludes consumables** such as resin tanks, nozzles, and cleaning fluid.
- **Warranty void if:**
 - Damage results from improper use, self-disassembly, or unauthorized repairs.
 - Damage due to exposure to harsh conditions or failure to follow maintenance guidelines.
- **For warranty claims:**
 - Contact us at contact@neckog.com with your purchase details.
 - Shipping costs for warranty service are the responsibility of the user.

NDAA Section 889 Compliance Statement

Flovv is fully compliant with the National Defense Authorization Act (NDAA) for Fiscal Year 2019, Section 889. This section prohibits the use of certain telecommunications and video surveillance equipment or services from specified companies deemed to pose a national security risk.

After conducting a reasonable inquiry, Neckog Industries LLC certifies the following:

1. No Restricted Equipment:

Flovv does not incorporate telecommunications or video surveillance equipment from the following companies or their subsidiaries and affiliates:

- *Huawei Technologies Company*
- *ZTE Corporation*
- *Hytera Communications Corporation*
- *Hangzhou Hikvision Digital Technology Company*
- *Dahua Technology Company*

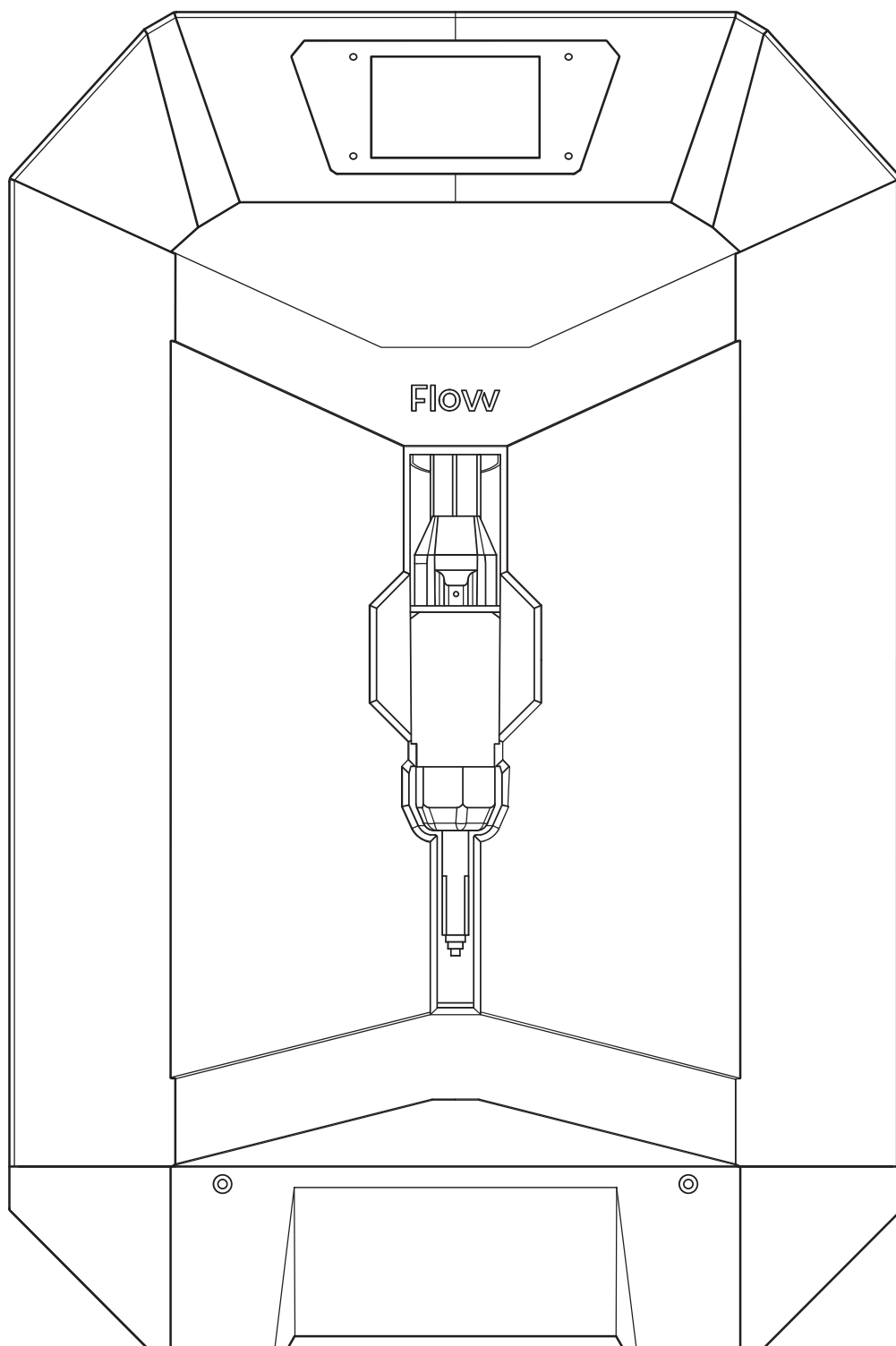
2. No Use of Prohibited Services:

Neckog Industries LLC does not utilize, procure, or provide any services involving the above-listed companies for the manufacturing, development, or operation of Flovv devices.

3. Ongoing Compliance:

We continuously review our supply chain to ensure ongoing compliance with NDAA Section 889 requirements.

For additional information or documentation regarding NDAA compliance, please contact: [**contact@neckog.com**](mailto:contact@neckog.com)



Set Flow Limit

The device provides flow rate settings for three different nozzle types.

The user must select the flow rate that matches the nozzle type in use.

Incorrect selection may cause the following issues:

High speed with a low-capacity nozzle > Increased pressure, clogging, or irregular flow.

Low speed with a high-capacity nozzle > Unnecessarily slow injection and loss of time.

Choosing the correct setting is essential for efficient and safe operation of the device.

Steps to Set Flow Limit:

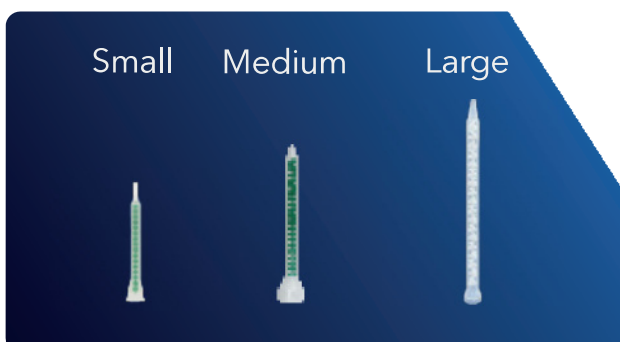
1. On the main screen, tap the **Settings** button.
2. From the menu, select **Set Flow Limit**.



3. Select your nozzle type from the three available options:

- Small Medium Large

Three nozzle types will appear visually:



Select your nozzle type.



4. The setting is saved automatically and will be applied when the device restarts.



Notes

Incorrect flow rate selection may cause pressure imbalance, material splashing, or filling errors during injection. Each nozzle type has a specific flow capacity; the selected speed must match the nozzle type in use.

FCC Warning:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.