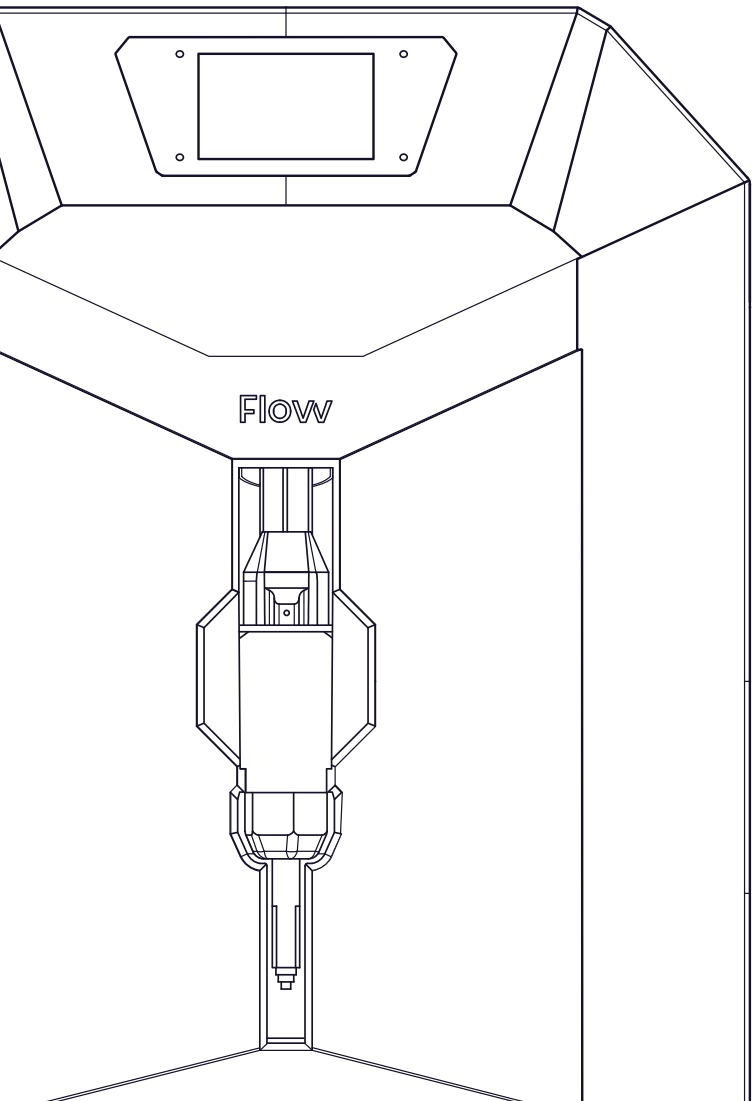
NECKOG INDUSTRIES

Flovv

User Manual



THE VOID

Thank you for purchasing

Flovv

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

Notice

- 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.

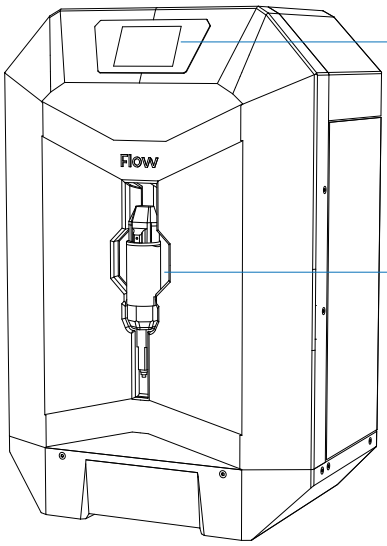
Contents

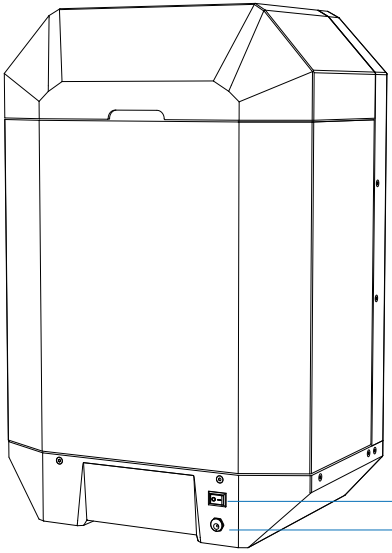
Nozzle and Tanks Replacement

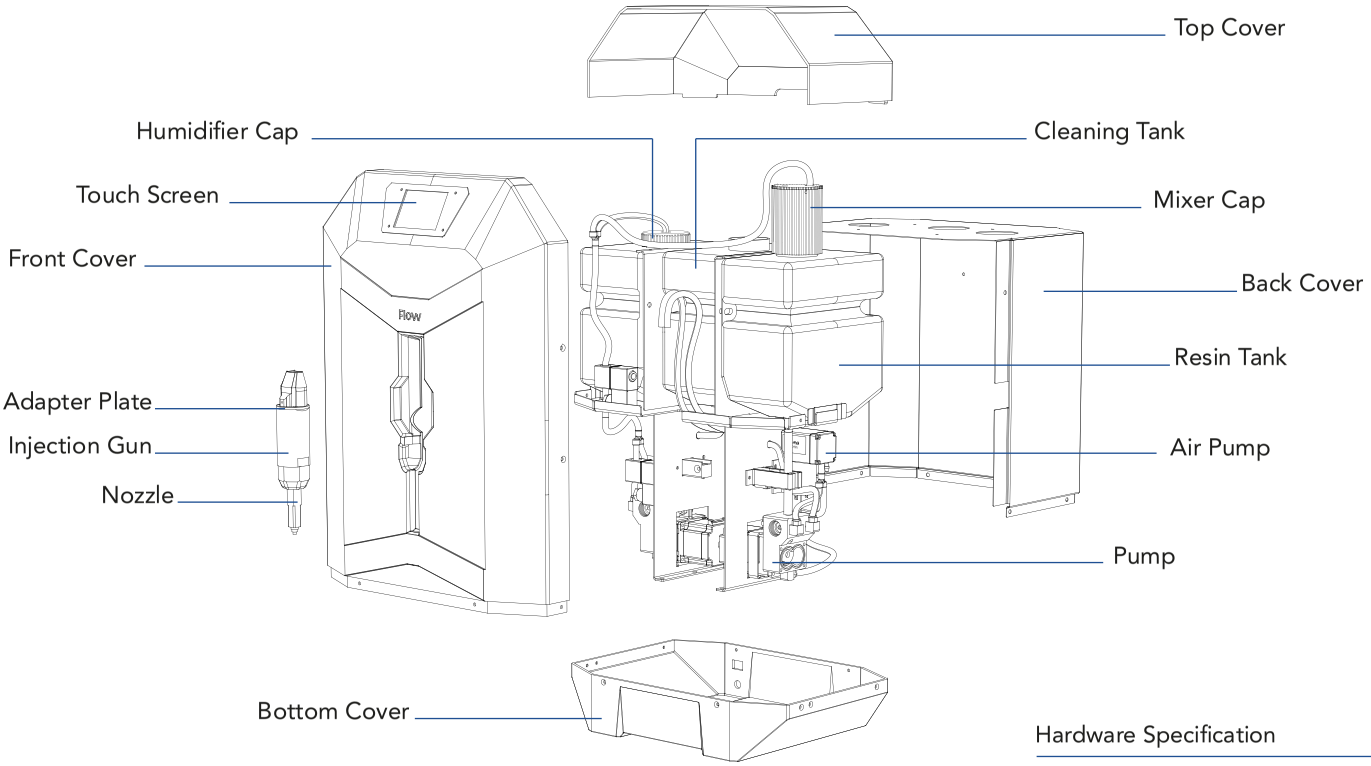
Packing List

- Flovv Injection Module
- Power Adapter
- Injection Gun
- Resin Tanks (A & B)
- Cleaning Tank
- 5 spare Nozzles
- Prying Tools
- Mold Release
- User Manual
- Working pad

INTRODUCTION







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	9.6KG

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

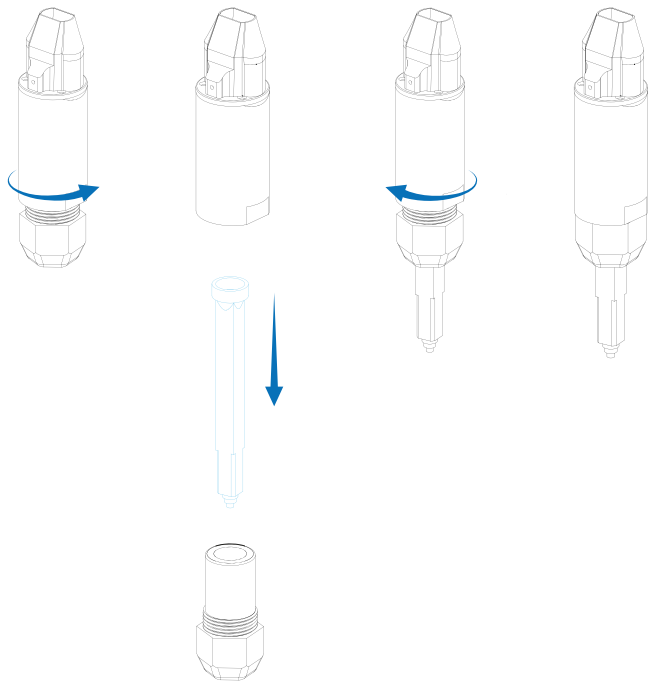
- Keep the device in a dust-free, dry area, away from direct sunlight.
- Always operate Flovv in a ventilated space and wear gloves and a mask when handling resins.

Nozzle & Tank Replacement

Nozzle Replacement & Secure Attachment

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

- Insert the nozzle securely into the injection handle.
- Align the nozzle with the adapter plate on the injection gun.
- Secure the nozzle by tightening the three screws on the adapter plate.
- Ensure the nozzle is tightly fixed to prevent leaks.
- If needed, apply a small amount of mold release agent on the nozzle tip for smooth operation.



Resin Tank & Cleaning Tank Replacement

Correct tank installation ensures proper material flow and prevents contamination.

Resin Tanks (A&B) Installation

- Locate the designated slots for Resin Tank A and Resin Tank B.
- Insert Resin Tank A and Resin Tank B securely into their respective slots.
- Connect the tubing from each tank to the system.
- Ensure both tanks are tightly secured and detected by the system.
- Close the tank caps to prevent resin contamination and evaporation.

Cleaning Tank Installation

- Locate the Cleaning Tank slot, positioned between the resin tanks.
- Insert the 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.

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.

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.

Find compatible resin types at ...

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

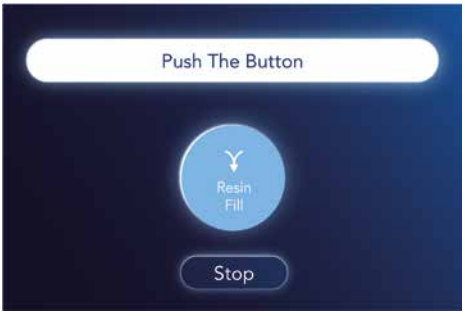
Physically: Ensure the mold is in place and the nozzle is clear.
Flovv supports two injection modes:

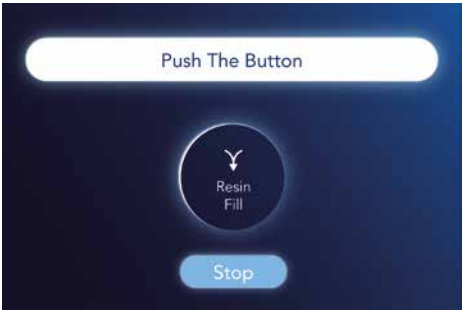
Automatic Injection Mode

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.



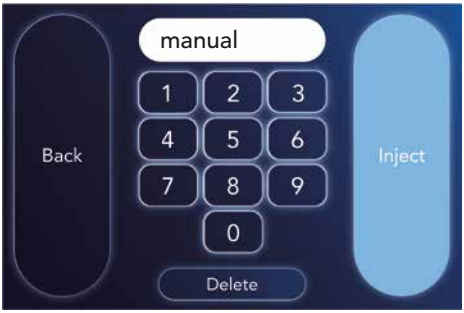


After the injection is complete, the system will prompt you to run a cleaning sequence. Select **Yes** to prevent resin from hardening in the nozzle.

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.

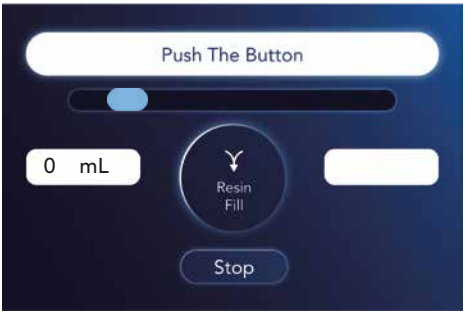


After manual injection, the system will ask if you want to run a cleaning sequence. Select **Yes** to avoid clogging.

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

Adjust Dynamic Flow Control if needed during injection

On the Touchscreen	◦ Modify the **flow rate** manually using the control sliders ◦ 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.

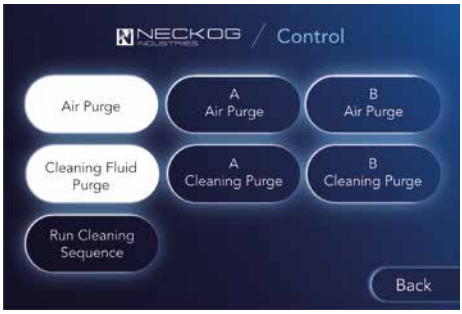
Carefully remove the injected part using mold release tools.

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.
- 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.*

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.

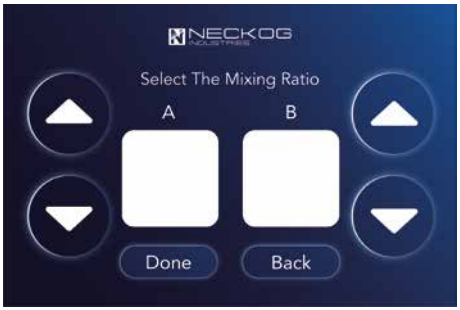
Pump Adjustment & Flow Offsets

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 S**ettings > 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.

Nozzle Swap & Priming Calibration

Proper nozzle installation and priming are crucial for accurate injection.

Physical Setup:

- Insert the nozzle securely into the injection handle.
- Align it with the adapter plate and secure it using the three screws.
- Ensure the nozzle is tightly fixed to prevent leaks.

On the Touchscreen (During Injection Process)

- When starting the injection, the system will prompt you to Prime the Nozzle
- Tap Yes to begin priming before any resin is dispensed.

Tip: Always prime the nozzle before each injection sessions for precise flow and clean injection.

Color Mixing in Tank A

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

On the Touchscreen

- Go to S**ettings > 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

Flovv 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 your third-party resin's specifications. (Flovv supports 1:1 resin ratios for precise control.
- Choose one of the available **Custom Material Slots**
- Adjust the **pump flow rate, retraction settings and curing time** as needed.
- Tap **Save Preset** to store your custom settings. Flovv 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.

This statement applies to all Flovv devices, including any future updates or hardware revisions, unless explicitly stated otherwise.

For additional information or documentation regarding NDAA compliance, please contact: **contact@neckog.com**

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