

HASHTEK 85T

USER MANUAL



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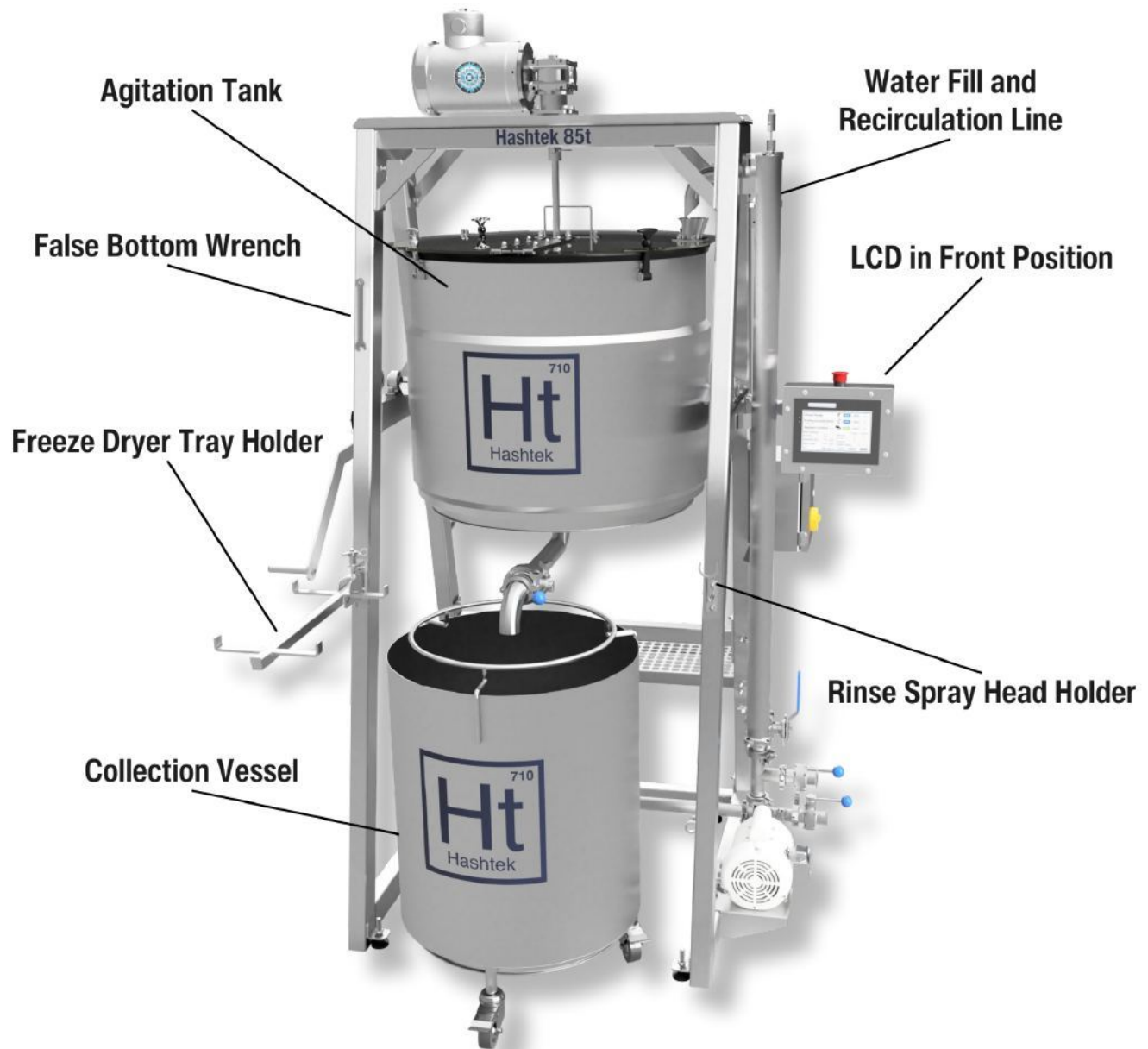
This manual covers:

- **Hashtek A-Series Extra Wide** (Analog 2.0, LCD)
- **Tank sizes:** 30a, 50a, 65a

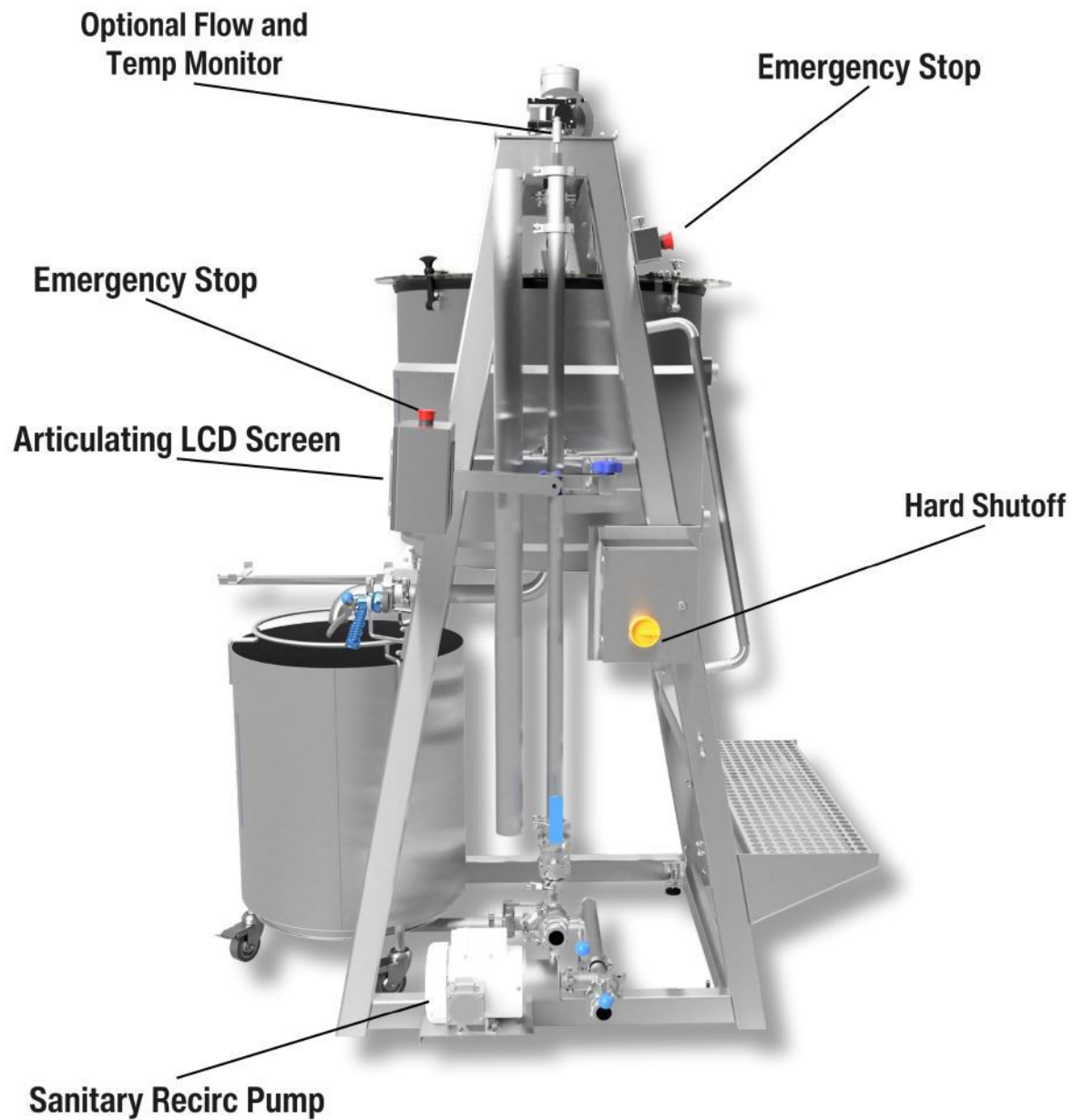
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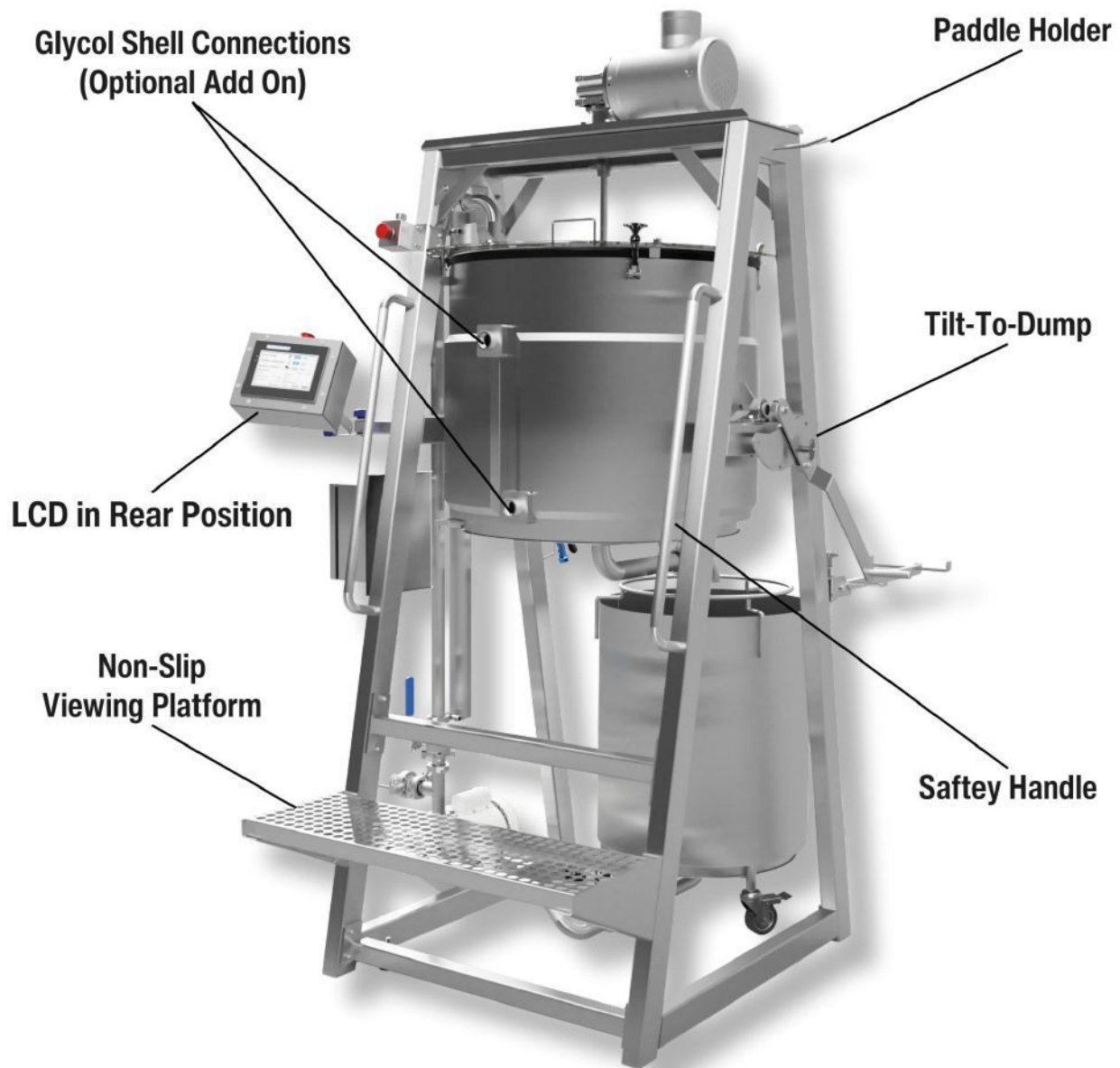
SETUP DIAGRAM



SETUP DIAGRAM



SETUP **DIAGRAM**



GLOSSARY & TERMS

Agitation Paddle – Heavy-duty Hashtek paddle designed for large-scale, low-speed, high-torque mixing.

Bag Adapter – Allows smaller collection bags (20 gal) to be used in the large T-Series collection vessel.

Biomass Tilt-Dump – The T-Series tank can **lock into a tilted position** for safe emptying. Depending on your room setup, it can dump **forward or backward**. Eliminates heavy lifting of large biomass loads.

False Bottom – Stainless plate at the base of the agitation vessel that keeps biomass suspended while trichome heads wash through. On Tilt-Series units, the false bottom **bolts down for added security during agitation**. A **7/16" wrench** is provided for this purpose.

Overflow Sensor – Electronic sensor that stops agitation or alerts the operator if water reaches unsafe levels.

Preset Modes – Factory settings (Gentle, Medium, Aggressive) controlling spin time, ramp, pause, and speed. Customizable for advanced users.

Recirculation Pump – Sanitary magnetic drive pump that moves water from collection to agitation tanks, enabling continuous trichome removal.

Rinse Pump – Dedicated pump supplying clean rinse water through the spray head to wash collected resin.

Smart Scaling – Hashtek control logic that automatically adjusts ramp and timing as intensity increases, giving LCD controls greater precision.

Tri-Clamp (TC) Fittings – Standard sanitary connections used throughout Hashtek systems. Tool-free, easy to clean.

Work Bag (220 µm) – Nylon liner bag for containing biomass in the agitation vessel. **Rarely used on T-Series**, except for trim runs, since the system is designed for free-flow agitation.

INTRODUCTION

The **Hashtek T-Series** is our flagship agitation system, engineered for industrial-scale ice water extraction. With batch capacities from **7–28 kg of fresh frozen material**, it is designed for labs that demand high throughput without sacrificing quality.

Built from **304 stainless steel** and powered by a **sanitary washdown motor**, the T-Series combines high torque, low-speed agitation with our most modern control system. This ensures trichome heads are separated as gently as possible while still keeping up with the demands of commercial-scale production.

While the system is widely used in the cannabis industry for resin extraction, its precise agitation control makes it suitable for other applications, such as **lupulin separation from hops** or other **botanical extractions** including HEMP and CBD flower.

SAFETY

- **High Voltage:** Only connect the unit to properly grounded outlets. Do not open the control panel. Service should only be performed by qualified personnel.
- **Paddle Safety:** Never place hands or tools inside the vessel while the agitator is running. Always turn off and unplug before accessing the tank.
- **Tilt-Dump Precaution:** Ensure the tank is drained of water before tilting forward or backward. Always use two operators when dumping biomass to prevent injury.
- **Heavy Loads:** T-Series assembly weighs over 1300 lbs when filled. Use appropriate lifting equipment and never attempt to move a machine alone.
- **False Bottom Lock:** Always secure the false bottom with the provided nuts and **7/16" wrench** before starting agitation.
- **Pinch Point:**  Keep hands clear of the gap between tank and frame when tilting, pinch hazard.

 **Takeaway:** Operator training is strongly recommended. **Commissioning support is available both in-person and virtually**—contact Hashtek for pricing.

CONNECTIONS & SPECIFICATIONS

1. Power

The 85t operates on **115 V (30 amp)** or **230 V (20 amp)**. Default wiring is 230 V. Any change requires a different control panel model and must be specified prior to production.

2. RO/Clean Water In

- **Process Water:** 1.5" tri-clamp port
- **Rinse Water:** ½" OD barb

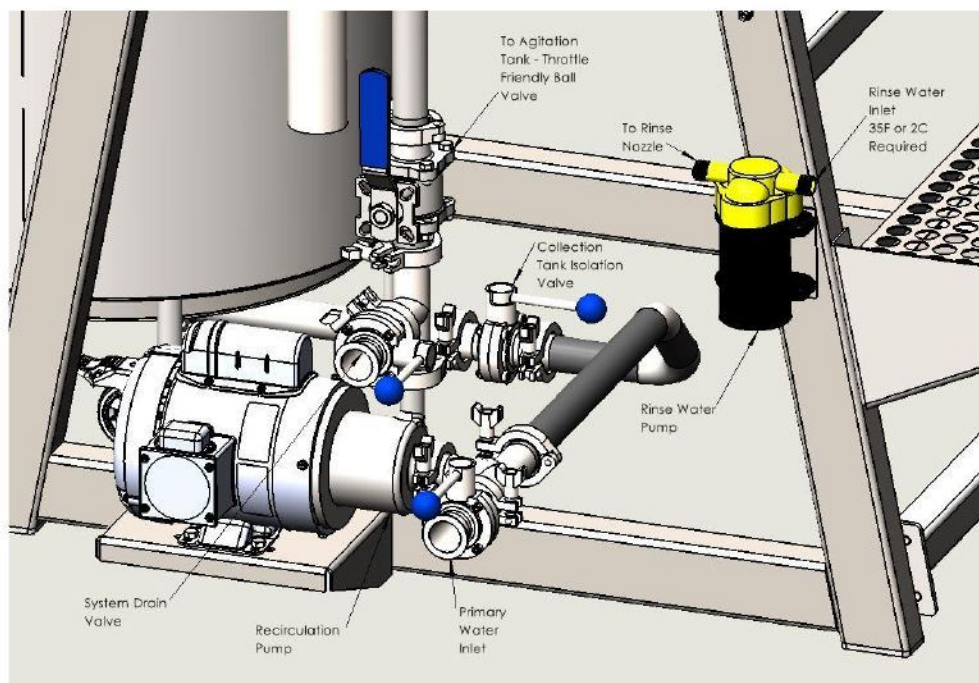
These separate inputs allow flexibility for SOPs that distinguish between process water and rinse water.

3. Drain Water Out

Expel waste water through a 1.5" tri-clamp port. Direct to drain or waste storage.

Hashtek 85t Specifications

- **Capacity (fresh frozen):** 28 kg
- **Capacity (dry):** 5 kg
- **Collection Vessel Size:** 65 gal (20 gal bags can be used with Hashtek Bag Adapter)



SETUP & INSTALLATION

Positioning the Unit

- Place the T-Series on a **flat, level surface** capable of supporting its filled weight (~1,300+ lbs).
- Ensure **clearance on all sides** for tilting and safe operator access.

False Bottom Installation

- Insert the **stainless false bottom** into the agitation tank.
- **Secure with bolts and the 7/16" wrench** before operation.

Control Panel & Power

- Connect only to a properly rated outlet:
 - **115 V (30 amp)** or **230 V (20 amp)** (default is 230 V).
- Do not open the panel; service must be by qualified personnel.

Hose & Water Connections

- Connect **process water** and **rinse water** to their inlets.
- Verify all **tri-clamps, gaskets, and drain outlet** are secure.

Paddle & Work Bag Notes

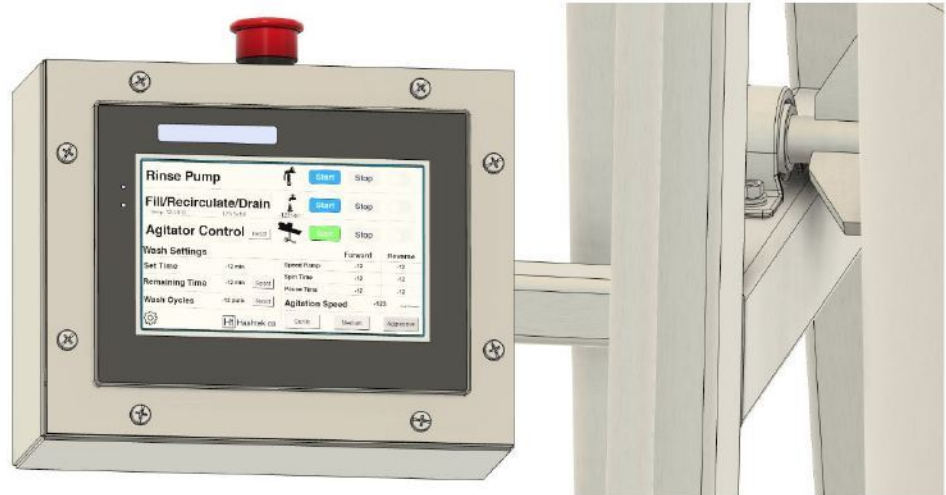
- **Paddle:** Removable like the A-Series; install before or after biomass, but always before securing the lid.
- **Work bags are rarely used**, except for trim runs.

Tilt Function Setup

- Tilt system locks into **forward or backward** tilt, depending on layout.
- **Always drain water first** and use **two operators** for biomass removal.

 **Reminder:** Secure the false bottom and use two operators when tilting.

CONTROLS - LCD BASICS



Pump Controls

- **Rinse Pump:** On/Off for rinse pump.
- **Fill / Recirculate / Drain:** On/Off for recirculation & fill pump.
- **Agitator Control:** On/Off for the agitator.

Timer & Cycle

- **Set Time:** Duration of agitation (15–20 min for batch, 45–90 min for continuous).
- **Remaining Time:** Time left in current cycle.
- **Wash Cycle Counter:** Shows completed cycles, useful for batch processing.

Agitator Parameters

Adjust individually or use presets (*Gentle, Medium, Aggressive*). Presets can be customized.

- **Speed Ramp (3–40):** Ramp-up time. Lower = faster ramp (more aggressive).
- **Spin Time (3–40):** Seconds per direction. Lower = quicker reversals (more aggressive).
- **Pause Time (0–40):** Delay between reversals. Longer = gentler, shorter = more aggressive.
- **Agitation Speed (0–100):** Paddle speed. Higher = stronger agitation.

CONTROLS - ADVANCED SETTINGS

T-Series Advanced Settings		Ht Hashtek.ca	
Recirc Pump Overflow Shutoff	☐	Temperature Units	CELSIUS
Tank Height	123.4 in	Raw System Temp (Always in °F)	123.45 °F
Shutoff Height	123.4 in	Temp Calibrate(ADD °F)	123.45 °F
Live Water Height	123.45 in	Temp Calibrate (SUBTRACT °F)	123.45 °F
Shutoff Time	-123 sec	Calibrated Display Temp	123.45 °F
Overflow Status	Off	Pump Cycles	-123451
Total Agitator Runtime	-12345 hours		
Pause Agitator on Low Level	☐	123.4 in	Developer Settings Version: 5.74-T
			Home Screen

Overflow Sensor

Displays tank fill % and allows:

- **High-Level Trigger** – Pauses recirculation to prevent overflow.
 - **Low-Level Trigger** – Pauses agitator if water drops too low.
- ⚠ Use valve throttling to balance flow; relying only on the sensor can cause frequent cycling and wear. Pump restarts once the water drops to ~80% of the shutoff height.

Key Settings

- **Recirc Pump Overflow Shutoff** – Enable/disable overflow protection (disable if draining full tank to waste).
- **Tank Height** – Calibrate % fill by filling to ~1–2" below brim.
- **Shutoff Height** – Set pause level (65–75% typical).
- **Shutoff Time** – Pump pause before restart (10–20 sec recommended).
- **Overflow Status** – OFF if below shutoff height; ON if above.
- **Pump Cycles** – Lifetime on/off count for the recirc pump.
- **Pause Agitator on Low Level** – Halts agitation if water is too low.
- **Temperature Calibration** – Adjust display ± to match an external probe

OPERATION - WASHING

The Hashtek T-Series delivers large-scale washing power while preserving resin quality. Follow these guidelines for best performance:

- **Loading Biomass**
 - Max capacity: **28 kg fresh frozen** (scale 5:1 for cured material).
 - Work bags are **rarely used on T-series** — only recommended for trim runs.
- **Pre-Soak**
 - Load biomass, then drench with **cold water** ($\leq 37^{\circ}\text{F}$ / 3°C) using the rinse system or spray hose.
 - **Pre-Soak:** Fresh frozen hydrates in 2–10 minutes; dry material needs 20–90 minutes, often pre-soaked externally in 5-gal buckets for efficiency.
- **Water Level**
 - Start by filling until the **paddle tops are just submerged**.
 - For the 85t, submerge paddles ~1" deeper. Adjust as needed.
- **Ice Usage**
 - **Limit to ~5 kg**; use pre-chilled water, ice is optional.
 - ⚠️ Slush around the false bottom = too much ice.
- **Agitation**
 - Begin with **gentle settings** until material is fully hydrated.
 - Gradually increase intensity to achieve desired separation.
- **Cycle Times**
 - Batch cycles: **3–30 min** (10–15 min typical).
 - Total agitation: **30–120 min**, depending on resin quality goals.
 - For edible-grade material: up to **4 hrs**.
- **Continuous Recirculation**
 - The **automated pump shutoff system** makes this easier by pausing and resuming recirculation as water levels change.

💡 **Pro Tip:** Start every wash gently. Once the material is fully hydrated, gradually increase speed for maximum yield without excess plant contamination.

OPERATION - RINSING

Once washing is complete, proper rinsing and biomass removal ensure clean, high-quality resin and safe operation.

- **Separation & Drainage**
 1. Open the **drain valve** to direct water and resin into your collection setup.
 2. Flow through a series of sieving bags, typically:
220 µ → 160 µ → 140 µ → 120 µ → 90 µ → 73 µ → 45 µ
 3. Narrower ranges (e.g., 90–140 µ) generally yield the highest-quality resin.
 4. Maintain steady flow to prevent bag overflow or clogging.
- **Rinsing**
 1. Use the **spray head** to rinse resin into the correct micron bag.
 2. Rinsing clears foam, fine contaminants, and ensures full resin transfer.
 3. 💡 **Tip:** Controlled rinsing improves clarity, melt, and overall resin quality.
- **Batch vs Continuous Style**
 1. **Batch Style** – Agitate, then fully drain before refilling with fresh water.
 2. **Continuous Recirculation** – Agitate while water flows through collection. Maximizes yield but requires monitoring.
 3. On the T-Series, **continuous recirculation is far easier** thanks to the overflow sensor. With a trained operator, it can even run unattended.
- **Biomass Removal**
 1. **Drain all water completely.**
 2. **Remove the lid** and place it securely on a stable surface.
 3. **Tilt-dump the biomass** with two operators. Many users prefer locking at 90° and scooping out material rather than performing a full continuous dump.
 4. **Unbolt and remove the false bottom** with the provided 7/16" wrench, then rinse the tank thoroughly.

⚠ **Reminder:** Never tilt with water in the tank. Always drain completely before biomass removal.

CLEANING & STORAGE

Proper cleaning and storage are essential for consistent performance and long machine life.

- **Initial Rinse**
 - After biomass removal, flush the tank thoroughly with fresh water.
 - Use the spray head to rinse out remaining biomass.
- **Cleaning Cycle**
 - Fill the tank with clean water and add a professional cleaner such as **Powdered Brewery Wash (PBW)** or a peroxide-based CIP cleaner.
 - Run the agitator on gentle/medium and circulate through hoses and fittings.
 - Rinse thoroughly multiple times to remove all cleaner residue.
- **Spot Cleaning**
 - Resin that has melted onto stainless surfaces may require **spot cleaning with isopropyl alcohol (ISO)**.
 - If ISO is used, ensure proper ventilation and avoid open flames — harsh solvents are often unnecessary for routine cleaning.
- **Component Storage**
 - Remove and clean the **false bottom, paddle, and lid** after each use.
 - Store these components **separately in a dry environment**, not inside the tank, if the unit will be idle for an extended period.
- **Hoses & Fittings**
 - Disconnect, rinse, and hang hoses to drip-dry.
 - For short-term downtime, hoses may be stacked with sanitizer (e.g., StarSan). Drain most of the water first to reduce sanitizer consumption.
- **Storage Guidelines**
 - **Short-Term (≤1 week):** Flush with sanitizer, leave system assembled.
 - **Long-Term (>1 week):** Fully disassemble, clean, and store all components dry. Keep lid vent open to prevent trapped moisture.

 **Reminder:** Always store components **clean and dry** — this is the single most important factor in preventing microbial growth.

TROUBLESHOOTING & TIPS

Issue	Possible Cause	Solution
Excessive Foam	Pump running dry or pulling air	Turn off pump before water level reaches zero; refill tank before restarting.
Pump Not Recirculating	Airlock in pump or hoses	Open drain valve briefly to purge air; ensure hoses are fully primed.
Low Flow / Weak Recirc	Clogged bag or restricted hose	Check bags for clogging; clear or swap hoses; reduce flow rate.
Agitator Not Starting	Emergency stop engaged or timer not set	Release E-Stop, press Reset, and confirm timer or dials are active.
Clicking Noise (Gearbox)	Normal break-in process	Noise usually resolves with use; contact support if it persists after 20+ hrs.
Breaker Trips	GFCI outlet nuisance tripping with VFD motor	Use a non-GFCI outlet or consult an electrician for proper wiring.
Overflow cycles too often	Shutoff height/time not calibrated, relying on sensor only	Recalibrate tank height, increase shutoff time, throttle flow manually.

Tips

- **Start slow:** Gradually increase speed as material hydrates to avoid contamination.
- **Monitor bags:** Check for clogs during recirculation, especially in continuous mode.
- **Outdoor material:** Drain the first wash; refill with clean water for subsequent pulls.
- **Two-person tilt:** Always use two operators when tilting to remove biomass.

NOTES

TIPS & BEST PRACTICES

Preventing Resin Build-Up

Resin under the false bottom usually happens when **continuous recirculation isn't used**. Keep water moving to carry trichomes forward. If buildup occurs, do a quick rinse: leave bags in place, remove biomass, tilt the tank, and spray down.

Water Level & Overflow

The T-Series can run higher fill levels than the A-Series thanks to its sealed lid, which allows more vigorous agitation without overflow. A good starting point is filling to the top of the paddles (~1" submersion on the 85t, slightly deeper on smaller tanks). If overflow occurs, lower the water level, reduce agitation speed, or adjust presets. Using less ice also frees capacity.

Ice Guidelines

Do not overload with ice. **Slush around the false bottom = too much ice**. Limit to ~5 kg. Ideally pre-chill water and run with little or none.

Wash Time

No universal setting—depends on material and goals. Riper plants release heads more easily. Longer agitation increases yield but also contaminants. Many operators split SKUs: **melt/resin** for top grade, lower fractions for edibles/combustibles.

Water Filtration

Water quality directly impacts yield and flavor.

- **Ideal:** 0–10 ppm (essentially pure).
- **Acceptable:** Up to ~50 ppm if mostly calcium carbonate.
- **Avoid:** >100 ppm, especially with chlorine, chloramine, or heavy metals.
Start with a **water chemistry report** (often free from municipalities).

 **Pro Tip:** Lock the tank at ~30° tilt for easier and safer filling.

T-SERIES LCD - EDITING PRESETS

Mode	Fwd Time	Rev Time	Fwd Ramp (Accel)	Rev Ramp (Decel)	Speed
LCD Display range	3-40	3-40	3-40	3-40	0-100 %
PLC Values	3-40	3-40	30-400	30-400	1000-6000
Gentle	10	10	30 (300)	30 (300)	20 (2000)
Medium	5	5	10 (100)	10 (100)	50 (3000)
Aggressive	3	3	5 (50)	5 (50)	60 (3600)

The factory presets (*Gentle*, *Medium*, *Aggressive*) provide reliable starting points for most users. Adjusting them is recommended only after gaining familiarity with the system and should be treated as an advanced option for fine-tuning agitation.

Display Scaling

- **FWD/REV Ramp:** Multiply displayed value ×10 for PLC values.
- **Speed:**
 - 0% = 1000
 - 100% = 6000

LCD Range: 3–40 (time, ramps) / 0–100% (speed)

PLC Values: 3–40 (time) / 30–400 (ramps) / 1000–6000 (speed)

Settings & Warnings

- Defaults are optimized for the **65a model**. For smaller tanks you may slightly increase speed to account for lower paddle tip velocity on smaller diameter paddles..
- **Minimum values:** FWD Time, REV Time, and Ramps must all be ≥3 seconds.
- Running below 3 seconds risks **gearbox damage** and **voids warranty**.

T-SERIES LCD - EDITING PRESETS

Rinse Pump



Start

Stop

☐

Fill/Recirculate/Drain



Start

Stop

☐

Agitator Control



Reset

Start

Stop

☐

Wash Settings

		Multi Direction	FORWARD	REVERSE
Set Time	00 min			
Remaining Time	00 min			
Wash Cycles	0 pulls			

Speed Ramp

0	0
---	---

Spin Time

0	0
---	---

Agitation Speed

Gentle

Medium

Aggressive

[illegible]

Agitator Settings			
	REV RAMP	SPEED	
1 Gentle	300	2000	
2 Medium	100	3500	
3 Agressive	50	4500	

Close

		Agitator Settings	
		REV RAMP	SPEED
1	Gentle	300	2000
2	Medium	100	3500
3	Agressive	50	4500

When the 'Edit' Button is white the fields are editable

The screenshot shows the 'Agitator Settings' table with three rows. A red arrow points to the 'Edit' button in the bottom right corner of the table. The 'Edit' button is white, indicating that the fields are editable.

TECHNICAL SPECIFICATIONS

115 Volt 1 Phase 2-pole

Operating Amps	20
Circuit Capacity	24
Plug	NEMA L5-30

230 Volt 1 Phase 3-Pole *(default/recommended)*

FLA	13
MCA	16
Plug	NEMA L14-20

Dimensions	58.75"W x 67.63"L x 91"H
Motor	Stainless Steel Washdown
Frame	304 Stainless Steel, TIG Welded
Controls	7" LCD or Manual Control
Connections	2" / 1.5" Sanitary Tri-Clamp
Glycol Jackets	¾" NPT Ports for glycol inflow and outflow
Safety	2x Push Button E-Stop, Twist to release
Weight	720 lbs
Collection Vessel	44 Gallon w/ Bickler Casters
Agitator Control	7 Parameters for Motor Control
Recipes	User Configurable Gentle, Medium & Aggressive
Origin	Made in Canada
Tank Capacity	65 Gallon Working Capacity, 85 Gallon Brimful capacity
Tilt to Empty	Fully rotating agitation tank for easy biomass removal

RECOMMENDED PRODUCTS

Product	Image	Purpose	Purchase Link
Weiman Stainless Steel Cleaner and Polish		Keeps tanks looking shiny, removes water stains/fingerprints, prevents oxidation. Leaves a greasy layer, never use on inside of the tank.	Amazon.com Amazon.ca
Bar Keepers Friend		Polishing powder for stainless. Great for removing oxidation if you stored your tank wet. Cleans and passivates your stainless. <i>Strongly recommended for restoring stainless.</i>	Amazon.com Amazon.ca
StarSan Sanitizer		Run a dilute solution through the lines before storage to prevent microbial growth in the hoses. Starsan dilution ratio is 6mL/Gallon for storage we recommend 4ml/Gallon for rinsing through hoses before storage	Amazon.com Amazon.ca
Powdered Brewery Wash (PBW)		Great for general cleaning of the system or first time cleaning after getting your unit from the Hashtek factory. Can be flushed through hoses and pump. Rinse well	Amazon.com Amazon.ca
Spin Scrubber		Designed for easier tank cleaning, eliminating the need for heavy scrubbing or manual effort.	Amazon.com Amazon.ca

GLYCOL CHILLING

Hashtek T-Series units can be ordered with optional integrated cooling features for more precise process temperature control.

Glycol Dimple Jacket (Wrap)

- Stainless steel **dimple jacket wrap** designed to fit the agitation vessel.
- Terminates to $\frac{3}{4}$ " NPT for easy connection to a glycol chiller.
- Recommended chiller setpoint: **28–30 °F** for stable wash temperatures.
- ⚠ Always install dual brass or stainless ball valves for safe isolation and maintenance.
- Many operators use a **flexible “whip” line** so hoses move freely with the tank when tilting or dumping.



Internal Heat Exchanger (Alternative Option)

- Instead of the external jacket, units can be equipped with a **built-in stainless heat exchanger**.
- Designed for connection to RO or chilled process water.
- Provides efficient, direct cooling without external wrap installation.

Best Practices

- Ensure hoses are supported to prevent stress on fittings.
- Insulate glycol or chilled water lines where possible to minimize condensation and improve efficiency.
- Work with your installer to confirm compatibility with your lab's chiller capacity and layout.

DIMENSIONAL DRAWINGS

