

# The Water Hammer



## Swimming Pool & Plumbing Line Pulsating Flusher Kit

U.S. Patent # 5615695

**“Maintenance Free Operation”**



A high volume flusher that uses Patented Pulsating Technology to convert air and water pressure energy into low pressure impacting Kinetic energy pulses; to safely clean and remove debris and stubborn obstructions from swimming pool & other plumbing lines without producing any pressure related damage!

- For Routine Maintenance – To preserve free flowing water for filtration & cleaning.
- For Problem Pools – To dislodge rocks, leaves, plaster, gunite, pool toys etc.
- For Construction Debris – To clear water lines & conduits prior to final finish.
- As An Effective Alternative – To the following current methods:
  - Snaking with a Fish Tape (Too Many Elbows – Risky!)
  - Hydro-Flushing (Produces Little Force – Much Less Effective!)
  - Carbon Dioxide (High Pressure - Very Difficult to Regulate)
  - Divers to the Bottom of the Pool (This is Very Expensive!)
  - Repeated Service Calls (Unhappy Customers & Wasted Time!)

Kit includes Pulsating Gun Assembly, standard 2” rubber tip, and whip hose for the tight spots. A smaller tip that fits into the end of the 2” tip, and a larger 4” cone that the 2” tip pushes into the back of. A water supply back flow preventer and a mini shut off valve for the water line (if needed); all packaged in a protective impact resistant storage case.



**This Tool Can Pay For Itself In the First Week of Use!**

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## SAFETY WARNINGS

Because conditions of use are out of our control, the manufacturer cannot be responsible for the potential misuse and the inherent hazards of using this tool. The Operator must completely understand and accept the responsibility and liability of the possible hazards, damage, and injury that could occur.

- This is a very serious high pressure-blasting device. You must read and understand the entire manual before beginning use of this flusher.
- Never point the discharge gun at any person. Keep away from children.
- Operator must be familiar with the dangers of and take all necessary precautions when working with pressurized air systems and components.
- A spit back hazard exists, if flusher tip is not sealed correctly or is deadheaded against a blocked component; always wear protective equipment, including safety goggles, face shield, and gloves when working with pressurized liquids and compressed air. Pressurized liquids and compressed air can and will cause severe injuries.
- The manufacturer cannot be responsible for any damage done to a component being cleaned of secondary damage occurring with the use of this system.
- Call Manufacturer's Tech Line (1-800-380-9501) before attempting any repair or if you have any questions about the safe and proper use of this flusher. Repairs are to only be performed by trained and approved service technicians.

	<b>WARNING</b> Risk of eye injury. Wear eye protection.		<b>WARNING</b> Read and understand operator's manual and all other safety instructions before using this equipment.
	<b>WARNING</b> Wear safety gloves.		<b>WARNING</b> This equipment should be used in locations with mechanical ventilation that provides at least four air changes per hour.

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## Preparation for Use Instructions

### COMPONENT DESCRIPTION:

- Impact Resistant Storage Case.
- Patented “Pulsating” Flushing Gun Assembly.
- Small, Medium & Large Rubber Tips to accommodate different pipe sizes.
- Whip Hose w/ Quick Couplers.
- Backflow Preventer for the spigot end of your water supply hose.
- Ball Valve (for water shut-off to air purge lines if needed).

### AIR SUPPLY

A portable air compressor that can be moved to pool side is recommended. A compressor of 6 CFM at 80 PSI is the minimum capacity that should be used. An example of an adequate compressor is the “Porter Cable Model C3151 (6.0 SCFM @ 90 PSI). A smaller compressor can be used but flushing will be limited by its tank size and ability to recover; this means stopping and waiting for recovery. A Nitrogen bottle (regulated to 100 PSI max) can also be used.

### WATER SUPPLY

A standard 5/8” water hose or larger is recommended. Always use a backflow preventer at the hose bib. Install mini ball valve between water hose and flushing gun assembly if air purge (drying) of line will be needed.

### POOL CONNECTION & FLUSHING PROCEDURE



Each flushing job is different when making a connection to allow use of the “Water Hammer”. A “solid” connection using short pieces of PVC pipe, elbows, adaptors, and reducers are mandatory.

Users that may not have such materials readily available can order the Water Hammer Connection Kit.

The operator must analyze the needs of each job to insure that the “Water Hammer” rubber tip fits snugly to minimize any loss of pulsating water force. Always flush opposite of the direction of flow first. Flushing in both directions (back flush & normal flow flush) may be needed.



The medium sized rubber cone (2") will quick connect to the gun or the whip hose. The smaller cone, if needed, inserts into the end of the medium cone. The medium cone is inserted into the back of the largest cone (4"), when needed.



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## Operating Instructions

- Select and install the accessory tip best suited for the flush job.
- Install the Backflow Preventer to the spigot end of your water supply hose.
- Connect water supply hose to the flush gun assembly and turn on the water; wide open.
- Connect air supply (min 75 PSI, max 200 PSI) and begin flushing; as long as you wish.
- When flushing is complete, disconnect the air supply.
- NOTE: Failure to connect air supply only when ready to begin flushing, and to disconnect air supply, when flushing is complete, may or will cause Backflow Preventer to discharge water pressure.

The air pressure regulator is preset to create a balance with 60-65 PSI residential regulated water pressure, to produce a strong pulse. In some rare cases, water lines such as commercial buildings, irrigation, and other outside water lines to pool areas may have water pressure set at higher or lower working pressures.

Connect the flusher to a water supply line and turn it on, then connect your air line to the flusher; point it in a safe direction (into the pool) and pull the trigger to see the pulse. A weak or non-existent pulse will indicate an imbalance with the water pressure and that the current air pressure setting will need to be increased or reduced to find the balance.

Excessive discharge from the back flow preventer and only air blowing when trying to flush a component will most probably indicate low water pressure and that the current air pressure setting is too high and should be reduced.

Loosen the set screw on the bottom of the air regulator adjusting knob about  $\frac{1}{2}$  a turn. Make or mark a reference to where the knob is set now as we do not want to go too far from the original setting. With the water and air connected and on, point gun in a safe direction and pull the trigger to see the pulse and make a small adjustment in the appropriate direction. There is a directional arrow on the bottom of the knob, (+) is to increase the air pressure and (-) is to reduce the air pressure. Using the trigger, stop and start a few times to be sure it is set correctly. When adjustments have been completed, hold the adjusting knob to prevent it from turning and snug the set screw (do not over tighten).

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## WARRANTY STATEMENT

This warranty covers The “Water Hammer” Pool System Flusher, manufactured by HECAT, INC.

**Please do not call the distributor** you purchased this item from. Warranties are 100% the responsibility of, and handled directly by, the manufacturer. You should call HECAT, INC’s toll free number, which is 1-800-380-9501.

You must contact HECAT, INC. and obtain a return authorization number before returning any unit to the manufacturer. Units for warranty and repair evaluations must reference a return authorization number and be shipped freight pre-paid. Collect shipments may be refused.

HECAT, INC. offers to the user of the HECAT “Pulsating” Pool System Flusher a limited lifetime warranty. This warranty covers all manufacturing defects in materials and workmanship from the date of purchase and is offered only to the original purchaser. This lifetime warranty is limited to exclude the following “wear” items:

1. Rubber Tips (3).
2. Whip Hose Tubing.
3. Flushing Gun Assembly Seals.

Note: If needed, replacement parts, rubber tips, and flushing gun seal kit are available from HECAT, INC. Call (800) 380-9501.

This warranty shall not apply to any flusher that has failed due to the failure to follow printed instructions, misuse, neglect, accidental damage, unauthorized repair, and/or unauthorized modifications.

Incidental or consequential damages occurring as a result of usage of this flusher are not covered by this warranty.

There are no other warranties implied or stated.