

# DRAIN IV™

Patent Pending



## Installation and Programming

*Helps Prevent HVAC Drain Clogs*


**“COMBATS SLIME”**

(Including White Zooglea)

### IMPORTANT!

- Only qualified technicians should install this product
- Install in accordance with relevant building codes
- Read instructions carefully including safety warnings before proceeding.
- Air Handler drip tray and drain must be thoroughly cleaned prior to installing DRAIN IV.

### WARNING!

- Turn off power to air handler before installing 
- Installation of this product by anyone other than licensed HVAC or electrical contractor voids warranty



Scan QR for Video  
Instructions



Part No. DRAINIV-INSTR-2

# PARTS:



- |   |                                 |
|---|---------------------------------|
| 1. DRAIN IV™ Programmable Pump                      | (part No. DRAINIV-2)            |
| 2. DRAIN IV™ Mount w/Magnet                         | (part No. DRAINIV-MNT-1)        |
| 3. DRAIN IV™ IV Bag Concentrate 6-Month Supply      | (part No. DRAINIV-IV-BAG-CON-1) |
| 4. DRAIN IV™ IV Bag -1 gallon – Refillable          | (part No. DRAINIV-IV-BAG-1)     |
| 5. DRAIN IV™ 24VAC/5VDC Converter w/ 10' Type C USB | (part No. DRAINIV-24V5V-USB-2)  |
| 6. Drip Tray Installation Kit                       | (part No. DRAINIV-DRIPTRAY-1)   |
| 7. Injection Port                                   | (part No. DRAINIV-INJ-PORT-1)   |
| 8. ¼" Tubing 4m                                     | (part No. DRAINIV-.25-TUBING-1) |
| 9. Filter   | (part No. DRAINIV-FILTER-1)     |
| 10. Hardware kit                                    | (part No. DRAINIV-HDWR-KIT-2)   |

**TOOLS NEEDED:** Scissors, pliers, crimp tool or wire strippers, gloves, safety glasses, screw gun w/driver

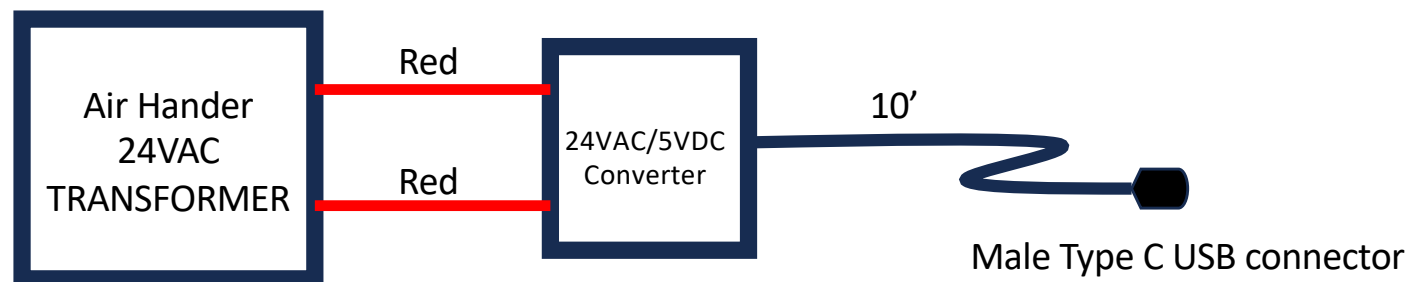
## Step 1: 24VAC to 5VDC Converter w/ 10' Type C USB Installation

1. Turn off power to air handler.
2. Install the **24VAC to 5VDC Converter w/ 10' Type C USB** using the wiring diagram below and the included connectors from the **Hardware Kit** (2 Red T-Tap/Spade Connectors or 2 Blue Wire Nuts) to the low side air handler's 24V transformer.
3. Feed the small end of the **24VAC to 5VDC Converter w/ 10' Type C USB** through the control box's wiring port to the exterior of the air handler.
4. Optional: Mount the **24VAC to 5VDC Converter w/ 10' Type C USB** to the control box housing using the included self tapping screws from the **Hardware Kit**.
5. Turn on the power to the air handler.

### NOTE:

\*Systems with high 24VAC loads may require the installation of a separate 24VAC transformer to power the **Programmable Pump**.

\* **24VAC to 5VDC Converter w/ 10' Type C USB** under load draws 4VA.








## Step 2: Programmable Pump, Magnet Mount and IV Bag Installation

1. Install the Magnet onto the backside of the Mount using the included screw. Tighten securely.
2. Remove the optional mount clip from the top of the **Programmable Pump** and retain the 2 screws.
3. Using the 2 screws, mount the **Programmable Pump** onto the **Mount w/Magnet**. Do not over tighten the screws. Find a suitable place on the air handler and attach the magnetic mount.
4. There are 2 options to inject the fluid into the drain system: Into the access Tee just outside the air handler using the **Injection Port**, or directly into the air handler's drip tray using the **Drip Tray Installation Kit**.
  - Injection Port Option:** Insert the **Injection Port** into the  $\frac{3}{4}$ " PVC access Tee just outside the air handler. Install a Tee if not present. Insert one end of the  $\frac{1}{4}$ " **Tubing** into the top of the **Injection Port** until the stop. Cut the tubing to length to reach the **Programmable Pump** with margin.
  - Drip Tray Installation Kit Option:** This kit comes with 2 clips and a Tee. Use 1 clip for single drip trays and 2 clips and the Tee for "U" shaped drip trays. Feed the  $\frac{1}{4}$ " **Tubing** into the area of the drip tray. If using 1 clip, feed the tube into the higher part of the clip so the open tubing end is pointing down. Push the clip on the side of the drip tray at the tray's highest part of the slope and make sure the open end of the  $\frac{1}{4}$ " **Tubing** is lower than the edge of the tray. If using 2 clips, use the Tee and cut the  $\frac{1}{4}$ " **Tubing** accordingly and repeat the installation for each clip at the top of each side of the "U" tray inside the air handler. Cut the tubing outside the air handler to length to reach the **Programmable Pump** with margin.
5. Using pliers, install a hose clamp from the **Hardware Kit** onto the  $\frac{1}{4}$ " **Tubing** at least 1" from the cut end. Push the  $\frac{1}{4}$ " **Tubing** onto the pump's OUT port. Using pliers, move the hose clamp over the OUT port barb and hose to seal.
6. Insert one end of the  $\frac{1}{4}$ " **Tubing** into the top of the **IV Bag** cap and pull 10" through. Push the **Filter** onto the  $\frac{1}{4}$ " **Tubing** below the cap. Make sure the  $\frac{1}{4}$ " **Tubing** goes all the way into the **Filter's** stop.
7. Follow the instructions on the **IV Bag Concentrate** and hang the **IV Bag** on the lower arms of the **Mount w/Magnet** using the **IV Bag's** 2 metal grommets. Cut the tubing to length to reach the **Programmable Pump** with margin.
8. Using pliers, install a hose clamp from the **Hardware Kit** onto the  $\frac{1}{4}$ " **Tubing** at least 1" from the cut end. Push the  $\frac{1}{4}$ " **Tubing** onto the pump's IN port. Using pliers, move the hose clamp over the IN port barb and hose to seal.
9. Plug the male end of the **24VAC to 5VDC Converter w/ 10' Type C USB** into the **Programmable Pump's** DC-5V port.
10. Use the adhesive relief clamps from the **Hardware Kit** to secure the excess tubing and cable.


NOTE: The optional mount clip can be used to mount the pump if the **Mount w/Magnet** is not used.

### Step 3: Programming and System Operation

- 1. Power ON/OFF the Programmable Pump:** Press and hold the  button for 3 seconds to power ON/OFF. System must be powered on to operate. When OFF, the display will be blank whether it's plugged in or not. When ON and plugged in, the display's **HOW MUCH** and **HOW OFTEN** will always display the current settings. When ON and not plugged in, the display will go blank after 20 seconds. To wake the display, press the  button. NOTE: The pump must be plugged in at all times.
- 2. Set the DOSE volume:** Press DOSE, use the + and -/TEST buttons to adjust the DOSE from 30ml to 480ml in 1ml increments. Press the  button to confirm the DOSE setting within 3 seconds of the last increment adjustment. Use the Table 1 for ml to cups conversions.
- 3. Set the TIME frequency:** Press TIME, use the + and -/TEST buttons to adjust the TIME from 1 day to 30 days in 1 day increments. Press the  button to confirm the TIME setting within 3 seconds of the last increment adjustment.
- 4. Test/Prime the Programmable Pump :** To test or prime, double press -/TEST. The pump will run for the programmed DOSE volume. The pump can be stopped before the end of the DOSE cycle by pressing . Double press -/TEST as many times needed to prime the system.
- 5. Operation:** The pump's TIME frequency timer will start immediately after the last DOSE/TIME setting is confirmed or after the pump is power ON. When the timer expires, the pump will run for the programmed DOSE volume, then the timer restarts. NOTE: When -/TEST is double pressed, it will not restart the TIME frequency timer.

#### NOTE:

\*The **Programmable Pump** is shipped with the default settings of HOW MUCH = 30 and HOW OFTEN = 2d. 30ml (1/8<sup>th</sup> cup) every 2 days. See Table 1 and 2 for details. This setting will be adequate for the majority of installations and should not be changed.

\*The **Programmable Pump** has an internal battery to keep the programmed settings. The battery will charge when plugged in and ranges from 0-10. To check the battery level, double press the  button. Press again to cancel. 0-9 will flash when charging, 10 will be solid indicating a full charge.

## Operational Settings, Conversions and Examples

**Table 1** is a conversion chart for typical DOSE volume settings

**Table 2** shows DOSE and TIME setting examples and resulting total volume for a month

Milliliters	Cups
30	1/8
60	1/4
120	1/2
180	3/4
240	1
300	1-1/4
360	1-1/2
420	1-3/4
480	2

**Table 1**

DOSE	TIME	Volume per Month
30†	2d†	480ml or 2cupst
30	4d	240ml or 1cup
60	2d	960ml or 4cups
60	3d	600ml or 2.5cups
60	4d	480ml or 2cups
240	7d	960ml or 4cups
360	15d	720ml or 3cups
480	30d	480ml or 2cups
†Default and Recommended Setting		

**Table 2**

## Troubleshooting:

<b>Problem</b>	<b>Solution/Cause</b>
Error Code 1 - er1 (in HOW MUCH)	er1 occurs when the time is displaying in error when turning on. Short press the power button to solve the problem. If the problem still exists, the timer might be defective.
Error Code 2 - er2 (in HOW MUCH)	The pump is defective or is not connected to liquid source. Please connect to a liquid source and short press the power button to solve the problem. If the problem still exists, the pump might be defective.
Clogs still occurring	Increase the Dosage. The system is shipped with the HOW MUCH and HOW OFTEN set to 30(30ml or 1/8th cup) and 2d(every 2 days). This is for the typical install and may need to be increased for various reasons including: more volume of water in the drain line, how contaminated the drain line is, or certain environments.
Air bubbles in the 1/4" Tubing	Make sure the 1/4" Tubing at the pump's IN and OUT ports are installed completely over the port's barb AND the 5mm hose clamps are securely installed over the hose/barbs. Make sure the Filter is completely submerged in the IV Bag's liquid. If the problem still exists, the pump might be defective.
Pump runs but nothing/little comes out	The pump is defective or is not connected to liquid source. Please connect to a liquid source and short press the power button to solve the problem. If the problem still exists, the pump might be defective.
Pump is not charging	Power to the air handler may be off. Converter might be defective or installed incorrectly. USB cable might not be plugged into the converter, be defective or damaged. Pump charging system might be defective.

## Manufacturer's Warranty:

This warranty supersedes and replaces any warranty statements orally made by the Sales Person, Distributor or Contractor or contained in the written instructions or other Brochures or informational documents in relation to this product. This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.

**What Does This Warranty Cover?** This one-year warranty covers any defects or malfunctions in material and workmanship under the normal use and service when operated and maintained in strict accordance with manufacturer's instructions of the equipment.

**How Long Does The Coverage Last?** The DRAIN IV system is warranted for one-year from the date of installation. This warranty is not transferable.

**What will DRAIN IV LLC Do?** DRAIN IV LLC will replace any defective or malfunctioning part at no charge. You must pay any labor charges and shipping charges of defective product to our warranty department.

**What Does This Warranty Not Cover?** THIS PRODUCT IS NOT INTENDED TO BE PURCHASED AND INSTALLED BY UNLICENSED HVAC OR ELECTRICAL CONTRACTORS. This warranty does not cover products or parts purchased from any source other than licensed HVAC or electrical contractors. This warranty does not cover parts installed by unlicensed HVAC or electrical contractors. This warranty does not cover parts damaged as a result of misuse, abuse, or any use other than its intended use, accident, acts of god, neglect, or from improper operation, maintenance, installation, modification or adjustments. DRAIN IV LLC shall have no responsibility for charges incurred by the customer for installation or removal of warranted items.

\*\*This warranty shall be void if unapproved liquids are used with this equipment.

Consequential and incidental damages are not recoverable under this warranty. Manufacturer assumes no liability for any harm, which may occur as a result of the use of the equipment herein and shall not be liable for consequential or any other damages whether or not caused by manufacturer's negligence or resulting from any express or implied warranty or breach thereof. Consequential damages for the purpose of this warranty shall include, but not be limited to, loss of use, income or profit, or loss of or damages to property or injury or death to persons or animals occasioned by or arising out of operation, use, the operation, installation, repair or replacement of the equipment or otherwise. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

**There are no Warranties which extend beyond the description of the face hereof.**

**How Do You Get Service?** In order to be eligible for service under this warranty you MUST return the warranty registration card or register online at [www.drainiv.com](http://www.drainiv.com). If something is wrong with your product, call your installing contractor to receive a Return Merchandise Authorization (RMA) and instructions for returning the product to a licensed distributor in your area or the manufacturer.

Once the product is returned, we will inspect your product and contact you within 10 business days of our receipt of the product to give the results of our inspection. If we determine that the product is covered under this warranty, we will ship to you at no additional cost a replacement part. If we determine that the product is not covered under this warranty, or that this warranty is void, the product will be returned to you COD. There is no charge for inspection.

**How Does State Law Apply?** This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.