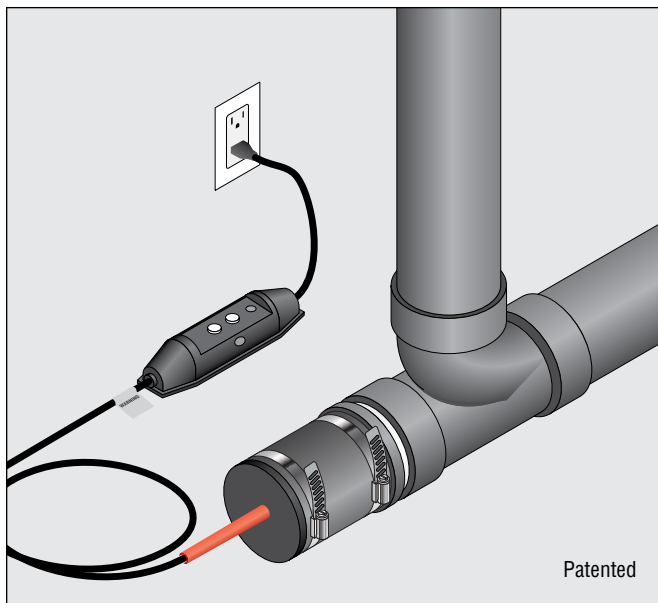




# Retro-DWS<sup>®</sup>

## Internal Heating Cable System for Non-Pressurized Sewer and Waste Drain Pipes

### Installation Instructions



#### Kit Description

Retro-DWS is a tubular self-regulating heating system designed for use in 4-inch and 3-inch non-pressurized sewage and waste water drain lines, as well as other large diameter non-pressurized pipes and storm drains. The core tube is constructed of HDPE (high density polyethylene) and will push inside most pipes for long distances. They can also be drawn in with a fish tape.

Retro-DWS utilizes a conductive polymer tubular heater technology which provides a barrier from the fluids while providing extremely efficient freeze protection. Retro-DWS can be used as a system to prevent freezing or as a precautionary system. If the drain waste or sewer freezes, the system can be energized to begin the thawing process.

Retro-DWS is supplied with all of the necessary fittings for 4-inch or 3-inch pipes at a clean out or other entry point. The Retro-DWS can be easily adapted to fit larger pipe diameters if required by using readily available, industry standard components.

Typical Retro-DWS-GFC supplied with a 4 foot electrical cold lead. Available with Ground-Fault Protection (GFCI) or Cord-Set (CS) both in 120 volt and 240 volt.

For installation of Retro-DWS into other applications refer to Retro-DWS Other Methods document.

#### Approvals

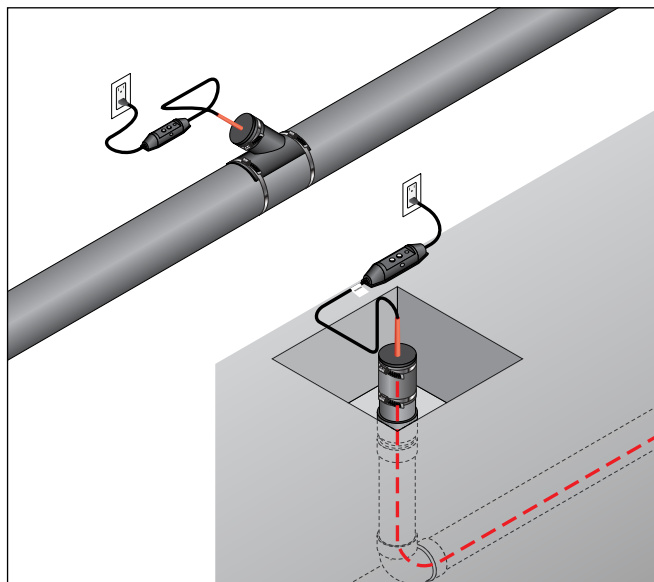


Usage Type W

Installation Type D USA

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#### ⚠ WARNING:

##### Important Safety Instructions and Rules for safe Installation and Operation

**FIRE AND SHOCK HAZARD.** This component is an electrical device which must be installed properly. Read and follow these rules and instructions carefully. Failure to follow them could result in serious bodily injury and/or property damage.

**WHEN PERFORMING WORK OR REPAIRS ON YOUR WATER SYSTEM BE SURE TO UNPLUG YOUR HEAT-LINE SYSTEM FROM THE POWER SUPPLY.**

- Check your local building, plumbing and electrical codes before installing. You must comply with their rules.

- Retro-DWS meets cCSAus codes for use in Canada and the United States.
- Before installing this product have the electrical outlet checked by an electrician to make sure it is properly installed and grounded in accordance with your local Electrical Code.
- Before installing or servicing your Retro-DWS **BE CERTAIN** that the power source is disconnected.
- Do not use extension cords.
- This product is designed to keep drains from freezing in serious climate conditions. The Retro-DWS tube may

obstruct certain materials, especially solids in the drains so a service schedule for proper maintenance is recommended. **The use of this product is at the sole discretion of the user. Heat-Line will not be liable for obstructions or blockages that may occur in some situations.**

- Never tamper with or alter the electrical apparatus associated with your Heat-Line system.
- The Retro-DWS product is **exclusively designed** to be employed in **non-pressurized** plumbing drain, waste, and sewer pipe applications. It is not designed to be installed or operated in a pressurized application.

## Tools Required

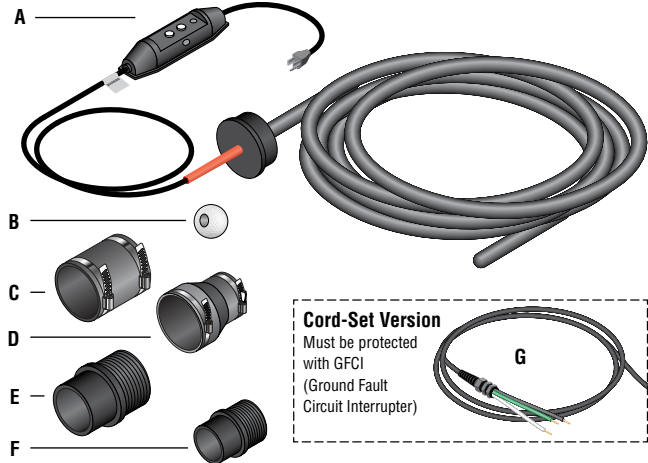
- Standard screwdriver or nut driver
- Torque Wrench
- Pipe Cutting Tool for 4" and or 3" ABS
- Adjustable Wrench

## Additional Materials Required

- Teflon tape or thread sealant

## Kit Contents

Item	Qty	Description
A	1	Retro-DWS –Predetermined length (GFC shown)
B	1	Pre-drilled dissolving ballpoint
C	1	4" Flexible pipe coupler
D	1	4" x 3" Flexible pipe reducer
E	1	4" ABS Threaded male adapter SPIG X MIPT
F	1	3" ABS Threaded male adapter SPIG X MIPT
G	1	Optional Cord-Set (CS) power connection



## Ordering Chart

### Retro-DWS | Product Code

Example: **DWS - 5 - 100 - GFC**

#### Product

DWS	120 volt Retro-DWS
DWS2	240 volt Retro-DWS

#### Wattage

5	5 Watts self-regulating heater
3*	3 watts self-regulating heater
8*	8 watts self-regulating heater

\* Special custom order only

#### Cord-Set Type

GFC	Ground fault protected
CS	Cord connected (no GFCI)

#### Length of System

10 to 230 feet	120 volt 5 watt systems
10 to 540 feet	240 volt 5 watt systems

## Optional Accessories

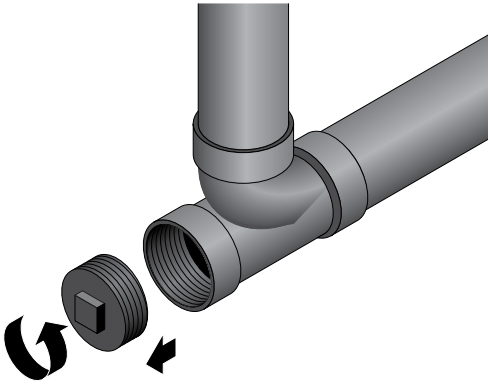
<b>HLA-120</b>	General purpose 120V, plug-in thermostat (for GFC models)
<b>GF-STAT</b>	NEMA 4X Ground Fault Protected Thermostat 120V/240V 30amp (for CS models)
<b>MA-10</b>	GFCI/ELCI Electrical Equipment Protection Device (for CS models)
<b>TIMER-120P</b>	120V plug-in timer (for GFC models)
<b>TIMER-240P</b>	240V plug-in timer (for GFC models)
<b>TIMER-CS</b>	120/240V hard wire timer (for CS models)
<b>INSUL-FOIL</b>	Aluminum reflective metalized foil bubble insulation

<b>FOIL-TAPE</b>	Professional Grade All Weather Foil Tape 2.83 inches x 150 feet (72mm x 46m)
<b>INSUL-3.00</b>	Polyethylene insulation sleeve for 3 inch ID pipe (6 feet long, 3 1/2 inch ID, 3/4 inch thick wall)
<b>INSUL-4.00</b>	Polyethylene insulation sleeve for 4 inch ID pipe (6 feet long, 4 1/2 inch ID, 1 inch thick wall)
<b>HLP-TAPE</b>	Black wrap tape for sealing insulation ends together 2 inches x 100 feet (50.8mm x 3m)
<b>TORQ-60</b>	No hub torque wrench automatic release at 60 IN. LB.
<b>WARRANTY</b>	Extended 10 year limited product warranty

## Standard 4-inch Cleanout

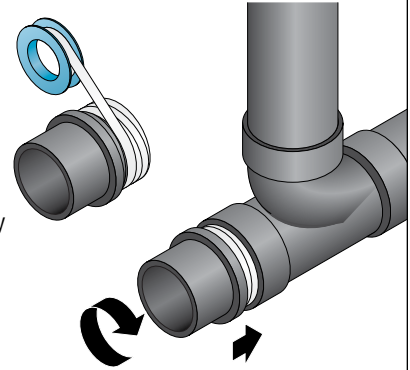
1

- Remove threaded cleanout plug.
- CAUTION:** Effluent may be present when threaded cap is removed.



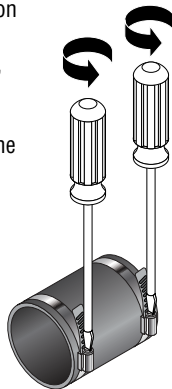
2

- Apply Teflon tape or thread sealant to the 4" ABS threaded male adapter SPIG X MIPT.
- Make sure to apply the Teflon tape in the direction of the threads to ensure it remains tight during threading of the fittings.
- Thread the male adapter into the clean-out female entry point.



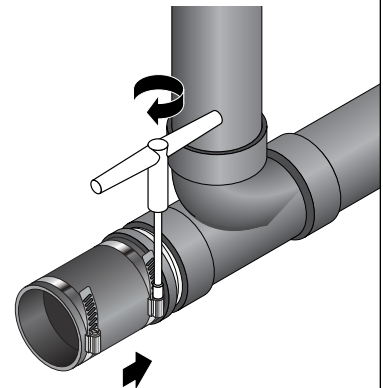
3

- Loosen the clamps on either end of the 4" flexible pipe coupler, do not remove the clamps from their seated location on the flexible pipe coupler body.



4

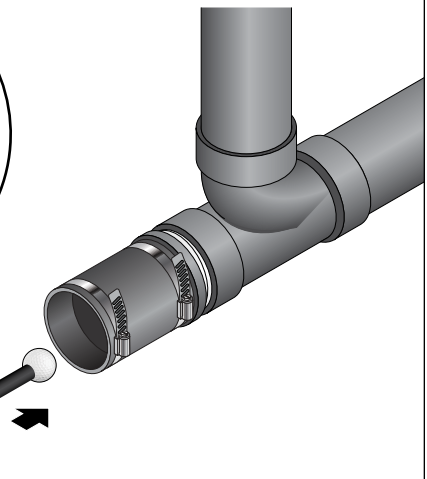
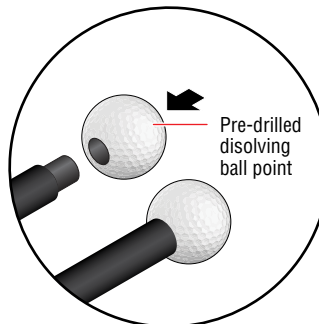
- Slide the flexible pipe coupler onto the now exposed spigot end of the male threaded adapter fitting and tighten the clamp to 60 inch-lb.



5

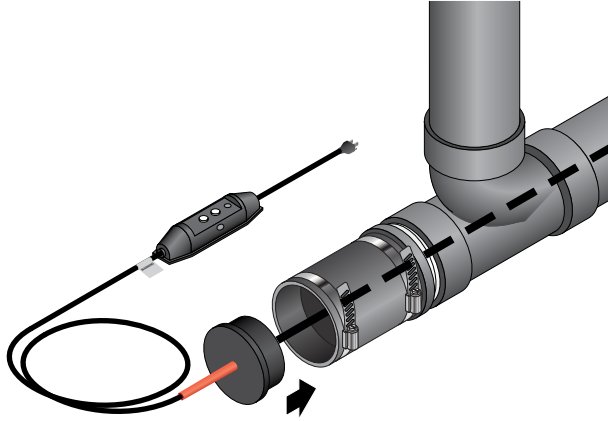
- Push the pre-drilled dissolving ballpoint onto the end-seal of the tubular heater making sure it is firmly in place. Then begin to feed the tubular heating cable system into the pipe through the installed flexible coupler.

**Note:** The pre-drilled dissolving ballpoint is designed to reduce the friction of the Retro-DWS tubular heater end-seal during installation. It also aids the passing of the tubular heater product through and around fittings located along length the pipe.



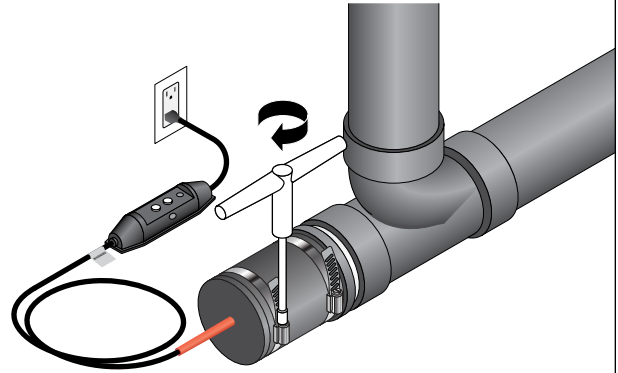
6

- Insert the Retro-DWS pipe core into drain until the bushing interfaces into the coupling.



7

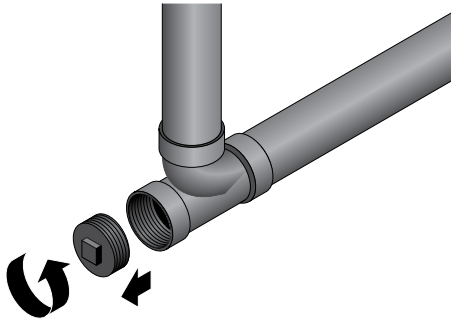
- Tighten clamp around Retro-DWS to 60 inch-lb.
- In accordance with standard industry practices test the integrity of the seal.



## Standard 3-inch Cleanout

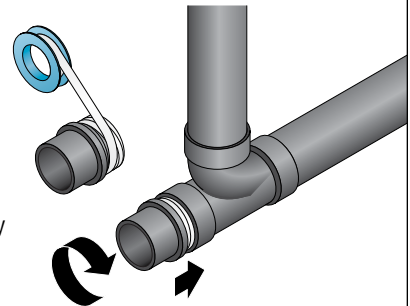
1

- Remove threaded cleanout plug.
- CAUTION:** Effluent may be present when threaded cap is removed.



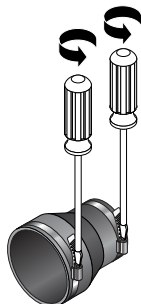
2

- Apply Teflon tape or thread sealant to the 3" ABS threaded male adapter SPIG X MIPT.
- Make sure to apply the Teflon tape in the direction of the threads to ensure it remains tight during threading of the fittings.
- Thread the male adapter into the clean-out female entry point.



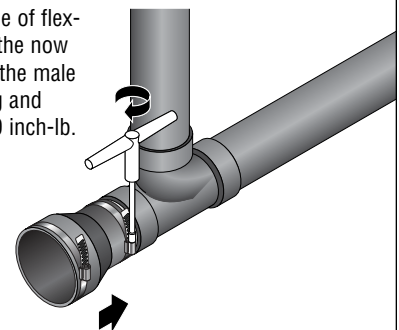
3

- Loosen the clamps on either end of the 4" x 3" flexible pipe reducer, do not remove the clamps from their seated location on the flexible reducer body.



4

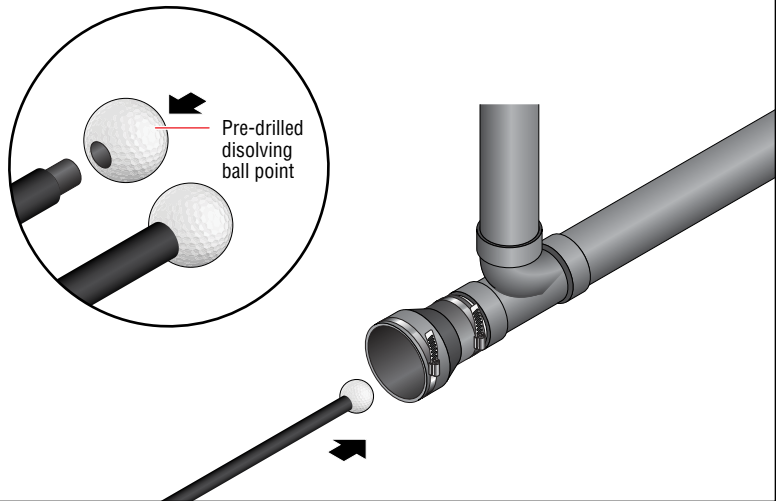
- Slide the 3" adapter side of flexible pipe reducer onto the now exposed spigot end of the male threaded adapter fitting and tighten the clamp to 60 inch-lb.



5

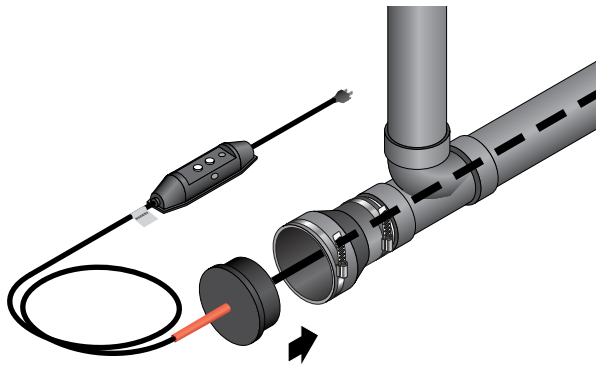
- Push the pre-drilled dissolving ballpoint onto the end-seal of the tubular heater making sure it is firmly in place. Then begin to feed the tubular heating cable system into the pipe through the installed flexible coupler.

**Note:** The pre-drilled dissolving ballpoint is designed to reduce the friction of the Retro-DWS tubular heater end-seal during installation. It also aids the passing of the tubular heater product through and around fittings located along length the pipe.



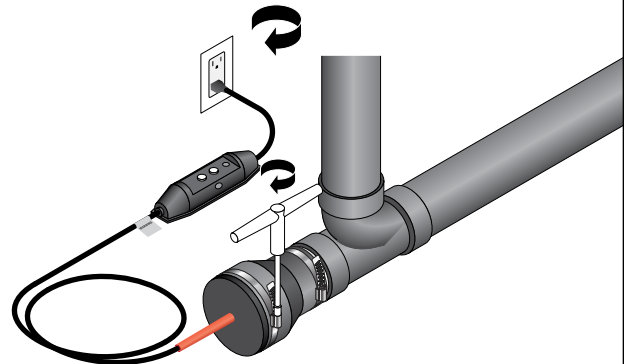
6

- Insert the Retro-DWS pipe core into drain until the bushing interfaces into the coupling.



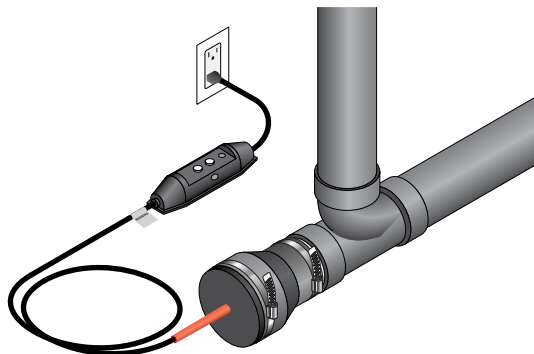
7

- Tighten clamp around Retro-DWS to 60 inch-lb.
- In accordance with standard industry practices test the integrity of the seal.
- Plug in heater and Test/Reset GFCI located in cord set.



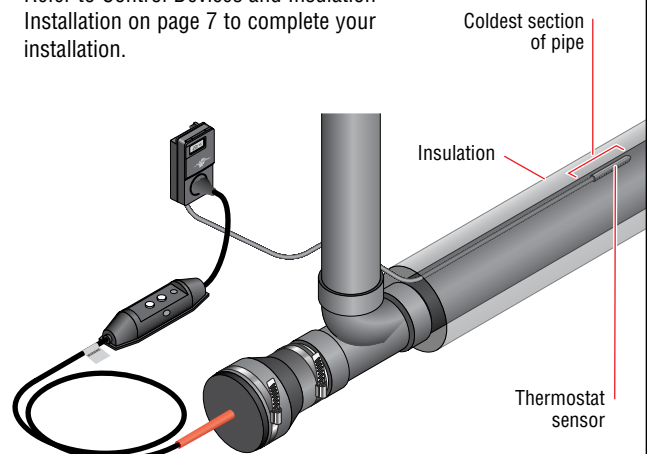
8

After all plumbing fittings have been completely installed.  
**It is time to energize your Retro-DWS system. Carefully follow the Electrical System Check Instructions below.**



9

Refer to Control Devices and Insulation Installation on page 7 to complete your installation.



## Control Devices and Insulation Installation

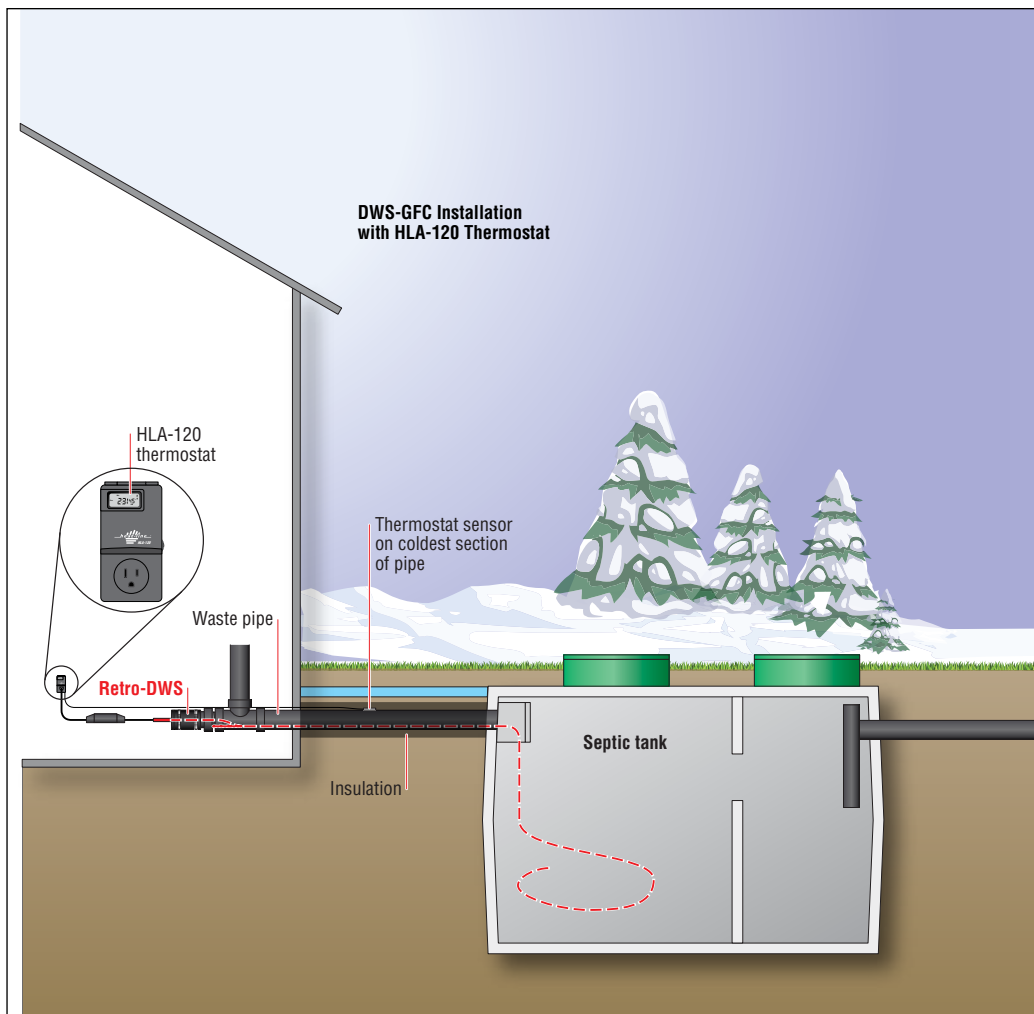
Control devices are not required to operate the heating cable system. They can be added for energy efficiency.

**Thermostats** are used to duty cycle the system in an on/off operation saving power consumption and maintain a certain pipe temperature. A sensor lead must be placed on the coldest section of pipe.

**Timers** are used to duty cycle the system in an on/off operation based on preset time intervals to save on power consumption.

**Insulation** is recommended for all new pipe installations, even where the pipe is to be buried.

For existing pipe applications, insulation is only required where the pipe is exposed to ambient outdoor temperatures, and/or where the pipe is above the ground. Insulation aids in heat retention making the heating cable more energy efficient and providing cold weather reliability.



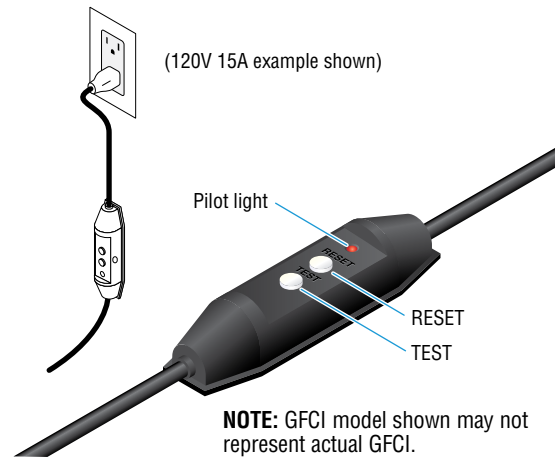
## Electrical Installation and Testing

### Electrical System Check on GFC Models (perform monthly while in use)

- Unpack the Retro-DWS system plug from its protective package.
- Plug into your dedicated outlet. 120V outlet (5-15R) for 120V systems or 240V outlet (6-15R) for 240V systems.
- Push RESET button on the cord set ground fault device until light turns ON. If light does not illuminate check power to outlet. Do not remove or tamper with the cord set. If used with a thermostat it may be necessary to bypass the thermostat control and plug directly into receptacle to perform test.
- Push TEST button and light will turn OFF. This indicates that the electrical circuit is intact and fully protected.
- Push RESET button again and light will turn ON. This indicates that your Retro-DWS is working.
- Follow this test procedure before each season and monthly while in use.

**Your Retro-DWS is now fully functional.**

If at any time your Retro-DWS system fails to work call your local electrician or Heat-Line for assistance at (800) 584-4944.



## Limited Warranty

During the time periods and subject to the conditions hereinafter set forth, Heat-Line will repair or replace to the original user any portion of your Retro-DWS product which proves defective in materials or workmanship of Heat-Line. Contact Heat-Line or your installer for warranty service.

At all times Heat-Line shall have and possess the sole right and option to determine whether to repair or replace defective equipment, parts or components. **Damage due to natural events or conditions beyond the control of Heat-Line are NOT COVERED BY THIS WARRANTY.**

**STANDARD WARRANTY PERIOD:** 60 months from date of purchase or 63 months from date of manufacture, whichever occurs first.

**EXTENDED WARRANTY PERIOD:** 120 months from date of purchase or 123 months from date of manufacture, whichever occurs first.

**ACCESSORIES, COMPONENTS, ELECTRONICS:** Not manufactured by Heat-Line, are warranted only to the extent of original manufacturer's warranty.

**LABOUR, COSTS, ETC.:** Heat-Line shall in **NO EVENT** be responsible or liable for the cost of field labour or other charges incurred by any customer in removing and/or reaffixing any Heat-Line product, part or component thereof.

### THIS WARRANTY WILL NOT APPLY:

- to defects or malfunctions resulting from failure to properly install, operate or maintain the unit in accordance with printed instructions provided,
- to failures resulting from abuse, accident or negligence;
- to normal maintenance services and
- to parts not used in accordance with applicable local codes, ordinance and good trade practices;
- if the unit is moved from its original installation location or
- if the unit is used for purposes other than for what it was designed and manufactured,
- to the integral ground fault device and related electronics.

**PRODUCT IMPROVEMENTS:** Heat-Line reserves the right to change or improve its products or any component thereof without being obligated to provide such a change or improvement for units sold and/or shipped prior to such change or improvement.

**WARRANTY EXCLUSIONS:** As to any Heat-Line product after the expiration of the time period of the warranty applicable thereto as set forth above. There will be no warranties including any implied warranties of merchantability or fitness for any particular purpose. No warranties or representations at any time made by any representative of Heat-Line, shall vary or expand the provisions hereof.

**LIABILITY LIMITATION:** In no event shall Heat-Line be liable or responsible for consequential, incidental or special damages resulting from or related in any manner to any Heat-Line product or parts thereof. In the absence of suitable proof of the purchase date, the effective date of this warranty will be based upon the date of manufacture plus 90 days.

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**Heat-Line Freeze Protection Systems**

1095 Green Lake Road  
Algonquin Highlands, ON Canada  
KOM 1J1  
Tel: (705) 754-4545  
(800) 584-4944  
Fax: (705) 754-4567  
info@heatline.com  
[www.heatline.com](http://www.heatline.com)

Heat-Line and Retro-DWS are registered trademarks of Heat-Line Corporation.

**Important:** All information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their particular application. Heat-Line a Division of Christopher MacLean Ltd. makes no warranties as to the accuracy or completeness of the information, and disclaims any liability regarding its use. Heat-Line's only obligations are those in the Heat-Line Standard Terms and Conditions of Sale for this product, and in no case will Heat-Line be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of the product. Specifications are subject to change without notice. In addition, Heat-Line reserves the right to make changes—without notification to Buyer—to processing or materials that do not affect compliance with any applicable specification.



## Retro-DWS Warranty Form

### CONGRATULATIONS!

You have just purchased the most advanced internal freeze-protection system available on the market, backed by the finest warranty offered in the industry. Your Retro-DWS system comes with a standard 5 year limited warranty with an optional 10 year limited warranty available.

*~ The warranty applies only to the original purchaser of the product and is not transferable at any time for any reason. The warranty form must be filled out and returned to Heat-Line within 6 months of invoice date or unit manufactured date plus 9 months to be eligible for the 10 year extended warranty. ~*

#### OWNER MAILING ADDRESS

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_  
Prov/State \_\_\_\_\_ Postal/ZIP \_\_\_\_\_  
Country ☐ Canada ☐ USA ☐ Other: \_\_\_\_\_  
Home Phone \_\_\_\_\_  
Email \_\_\_\_\_

#### INSTALLATION ADDRESS (if different than mailing)

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_  
Prov/State \_\_\_\_\_ Postal/ZIP \_\_\_\_\_  
Country \_\_\_\_\_  
Work/Cell \_\_\_\_\_

#### PRODUCT INFORMATION

Product Cat.# \_\_\_\_\_  
Serial # \_\_\_\_\_  
Length \_\_\_\_\_

Installation Type:  
☐ Sewage  
☐ Grey water  
☐ Drain  
☐ Other: \_\_\_\_\_

#### WARRANTY INFORMATION

5 Year Limited Warranty: **INCLUDED!**

☐ 10 Year Limited Warranty: \$1.50 / foot (\$60.00 minimum)

#### PAYMENT DETAILS FOR 10 YEAR LIMITED WARRANTY

System Length\*

1 – 40 feet = \$ 60.00      41 – 540 feet = \$ 1.50 per foot

\* For custom lengths involving inches, round up to the nearest foot

System Length\*

x \$ 1.50/ft

= Subtotal

#### Taxes and Currency

If Canadian Address: Subtotal: \_\_\_\_\_  
Provincial Tax %: \_\_\_\_\_ Tax Due: \_\_\_\_\_  
Total in CDN Currency:

If U.S. Address or Other Country:  
No Taxes Apply  
Total in US Currency:

#### PAYMENT METHOD

☐ Cheque

Enclose and make out to Heat-Line for full amount

Credit Card:

☐ Mastercard or

☐ Visa

Name on Card: \_\_\_\_\_

Card Number: \_\_\_\_\_

Expiration Date: \_\_\_\_

## **LIMITED WARRANTY**

During the time periods and subject to the conditions hereinafter set forth. Heat-Line will repair or replace to the original user any portion of your Retro-DWS product which proves defective in materials or workmanship of Heat-Line. Contact Heat-Line or your installer for warranty service.

At all times Heat-Line shall have and possess the sole right and option to determine whether to repair or replace defective equipment, parts or components. **Damage due to natural events or conditions beyond the control of Heat-Line are NOT COVERED BY THIS WARRANTY.**

**STANDARD WARRANTY PERIOD:** 60 months from date of purchase or 63 months from date of manufacture, whichever ever occurs first.

**EXTENDED WARRANTY PERIOD:** 120 months from date of purchase or 123 months from date of manufacture, whichever ever occurs first.

**ACCESSORIES, COMPONENTS, ELECTRONICS:** Not manufactured by Heat-Line, are warranted only to the extent of original manufacturer's warranty.

**LABOUR, COSTS, ETC.:** Heat-Line shall in **NO EVENT** be responsible or liable for the cost of field labour or other charges incurred by any customer in removing and/or reaffixing any Heat-Line product, part or component thereof.

### **THIS WARRANTY WILL NOT APPLY:**

- (a) to defects or malfunctions resulting from failure to properly install, operate or maintain the unit in accordance with printed instructions provided,

- (b) to failures resulting from abuse, accident or negligence;  
(c) to normal maintenance services and  
(d) to parts not used in accordance with applicable local codes, ordinance and good trade practices;  
(e) if the unit is moved from its original installation location or  
(f) if the unit is used for purposes other than for what it was designed and manufactured,  
(g) to the integral ground fault device and related electronics.

**PRODUCT IMPROVEMENTS:** Heat-Line reserves the right to change or improve its products or any component thereof without being obligated to provide such a change or improvement for units sold and/or shipped prior to such change or improvement.

**WARRANTY EXCLUSIONS:** As to any Heat-Line product after the expiration of the time period of the warranty applicable thereto as set forth above. There will be no warranties including any implied warranties of merchantability or fitness for any particular purpose. No warranties or representations at any time made by any representative of Heat-Line, shall vary or expand the provisions hereof.

**LIABILITY LIMITATION:** In no event shall Heat-Line be able or responsible for consequential, incidental or special damages resulting from or related in any manner to any Heat-Line product or parts thereof. In the absence of suitable proof of the purchase date, the effective date of this warranty will be based upon the date of manufacture plus 90 days.

## **PROOF OF PURCHASE**

If a proof of purchase copy is submitted with this warranty application form, the warranty period will be effective as of invoice date. In the absence of suitable proof of purchase, the effective date of this warranty will be based upon the date of unit manufacture plus 3 months.

Proof of purchase (invoice) attached: ☐ Yes ☐ No

By signing below you acknowledge you have read and understand the full limited warranty document.

Signed: \_\_\_\_\_

Dated: \_\_\_\_\_

The warranty form must be filled out and returned to Heat-Line within 6 months of invoice date or unit manufactured date plus 9 months to be eligible for 10 year extended warranty.

### **Heat-Line Freeze Protection Systems**

1095 Green Lake Road  
Algonquin Highlands, ON Canada  
KOM 1J1  
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info@heatline.com  
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