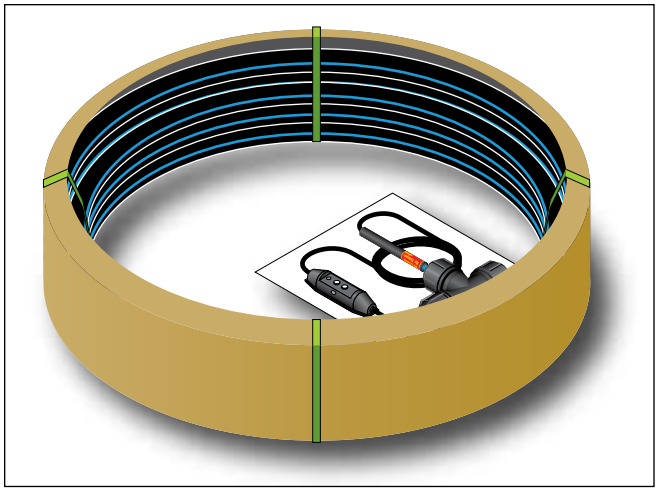
Heat-Line®

Internal Freeze Protected Water Supply Systems



Kit Contents

Qty	Description
1	Heat-Line - Predetermined length (GFC shown)
1	Optional Cord-Set (CS) power connection

Optional Accessories

HLA-120	NEMA 1 General Purpose 120V only plug-in Thermostat
GFA-STAT	NEMA 4X Ground Fault Protected Thermostat 120V /240V 30amp
TIMER-120P	120V plug-in timer (for GFC models)
TIMER-240P	240V plug-in timer (for GFC models)
TIMER-CS	120/240V hard wire timer (for CS models)
MA-10	GFCI/ELCI Electrical Equipment Protection Device
INSUL-1.00	Closed cell polyethylene insulation sleeve for 1" ID pipe (6' long, 1 5/8" ID, ¾" thick wall)
INSUL-1.25	Closed cell polyethylene insulation sleeve for 1 1/4" ID pipe (6' long, 1 7/8" ID, ¾" thick wall)

Table of Contents

Installation Instructions

General Information

Heat-Line systems are supplied job ready with the self-regulating heating cable factory installed inside 75 psi pipe. Heat-Line freeze-protected, potable, domestic water supply line systems are adaptable to ALL area where natural frost protection cannot be achieved. These are high performance products designed to work in extreme cold and harsh environments. Heat-Line products are uniquely adaptable to many types of applications. System requirements will vary a great deal in accordance to ground conditions.

It is recommended that the Heat-Line installation be made by a qualified tradesperson. This will ensure that optimum performance is achieved in each installation. Variables include: shallow burial in rocky geography - free air/ above ground and thermostatic control.

Thermostatic controls are optional but should be considered for every application for further energy savings if applicable. The use of insulation should also be considered for cold weather reliability and energy efficiency.

A. This heating cable set shall be installed in accordance with the National Electrical Code (USA) or the Canadian Electrical Code.

B. It is imperative that for all installations where the pipes are exposed to the outside ambient temperature that weatherproof insulation be used. (Wall thickness ½ inch minimum). Heat-Line offers closed cell foam types, foil/ air bubble type and others. Other types of weather-proof insulations may also be used.

C. Heat-Line can be used even when there is no water in the pipe. Heat-Line WILL NOT melt your water pipe. In the event of power failure your system may freeze. The system will however re-energize immediately following power restoration and will thaw out again. In most cases no damage to pipes will be encountered.

Heat-Line is a technically advanced product. Handle it with proper care and be sure not to damage the outer sheath or jacket of the cable.

Read the Safety Instructions and Installation Instructions completely before installing this product.

Approvals

Usage P and X
Installation Type D USA

Heating cable factory installed inside 75 psi CSA approved polyethylene pipe.

Heat-Line Part Code

Example: **HL – 75 – 125 – 100 – GFC**

Product
HL 120 volt Heat-Line
HL2 240 volt Heat-Line

Pipe Rating
75 Pipe Rating

Pipe Size (I.D.)
100 Pipe size 1"
125 Pipe size 1¼"

Cord-Set Type
GFC Ground fault protected
CS Cord connected (No GFCI)

Length of System
10 to 230 feet 120 volt systems
10 to 300 feet 240 volt systems

⚠ WARNING:

Important Safety Instructions and Rules for safe Installation and Operation

A. Read these rules and instructions carefully. Failure to follow them could result in serious bodily injury and/or property damage.

B. Check your local building, plumbing and electrical codes before installing. You must comply with their rules. Heat-Line is cCSAus approved for use in Canada and the USA.

C. Before installing this product have the electrical outlet checked by an electrician to make sure it is properly installed and grounded.

D. Before installing or servicing your Heat-Line BE CERTAIN that the power source is disconnected.

E. Do not use extension cords.

F. Heat-Line is NOT approved or designed for use in sewer or waste systems. For sewer and waste systems use Heat-Line Paladin, CARAPACE or EXT series systems.

G. Never tamper with or alter the electrical apparatus associated with your Heat-Line system.

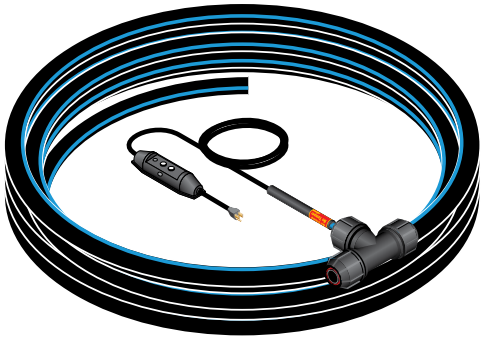
H. Check unoccupied residences regularly to ensure that all systems are operating properly.

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

Heat-Line Installation

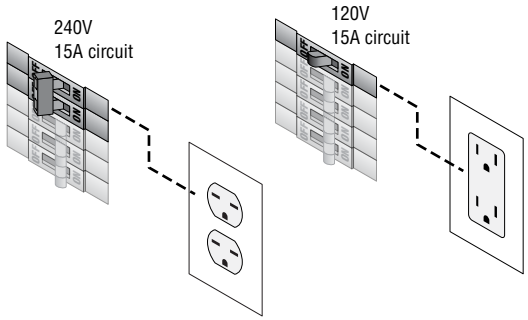
1

- Carefully unpack your Heat-Line system and make a visual inspection of the fitting and electrical apparatus for any shipping damage. Use no sharp instruments to unpack the roll.
- **Do not use sharp instruments** to unpack roll.



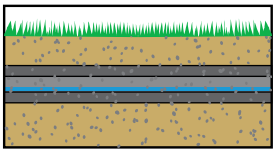
2

- It is recommended that a single circuit (15 amp) be installed by a qualified person for dedicated use of the Heat-Line system. **Do not use extension cords.**

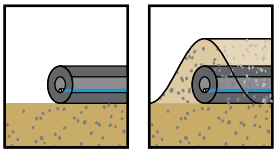


3

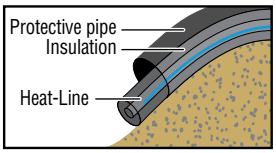
- Construct a level depth trench where possible (shallow is fine) and completely insulate the Heat-Line system with Heat-Line insulation. Your Heat-Line system may also be installed within a 3" or 4" drainage type duct (optional), for mechanical protection.



Bury the pipe a minimum of 3 inches deep



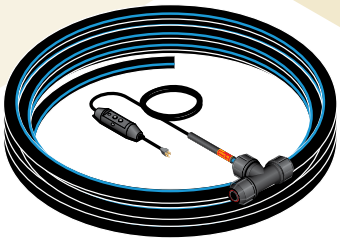
Run above ground. Cover with 3 inches of soil or sand (optional).



On rocky or inclined surfaces, and where the pipe enters the lake, protect with oversized plastic pipe (4 inch diameter or larger)

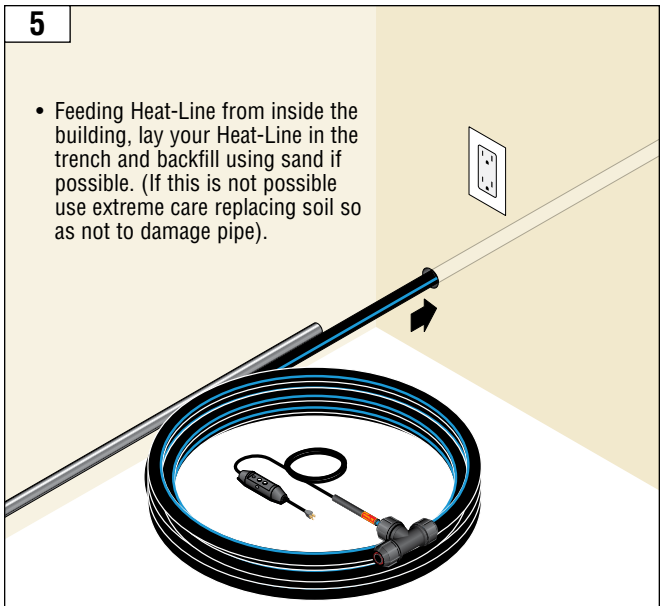
4

- Install the Heat-Line system so the entry fitting is on the inside of the building and near your power supply.



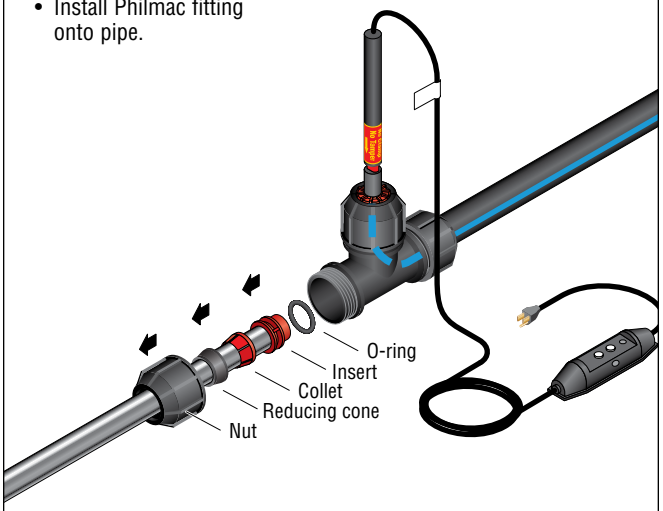
5

- Feeding Heat-Line from inside the building, lay your Heat-Line in the trench and backfill using sand if possible. (If this is not possible use extreme care replacing soil so as not to damage pipe).



6

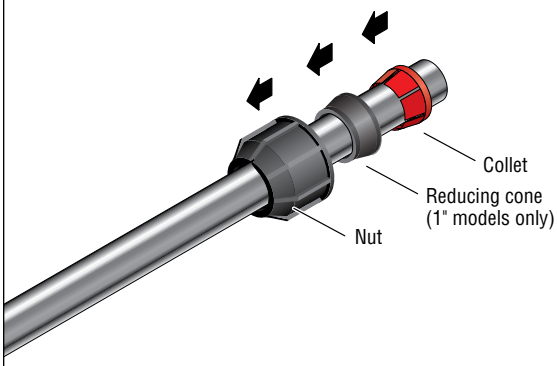
- Install Philmac fitting onto pipe.



7

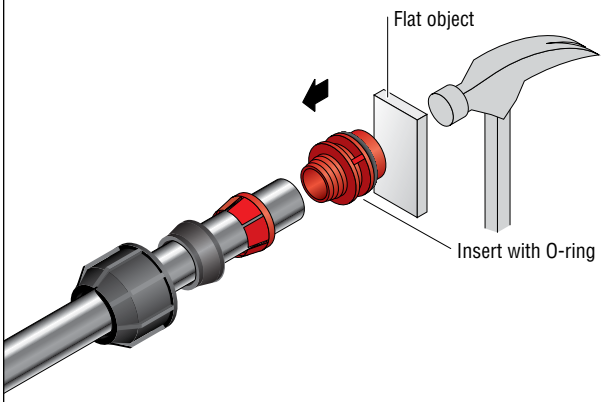
- Remove nut, reducing cone (1" models only) and split collet from central fitting and slide over pipe.

NOTE: Ensure the taper or split collet faces toward the nut.



8

- Tap insert into pipe preferably with a forked flat object. Ensure O-ring is correctly positioned on the insert.



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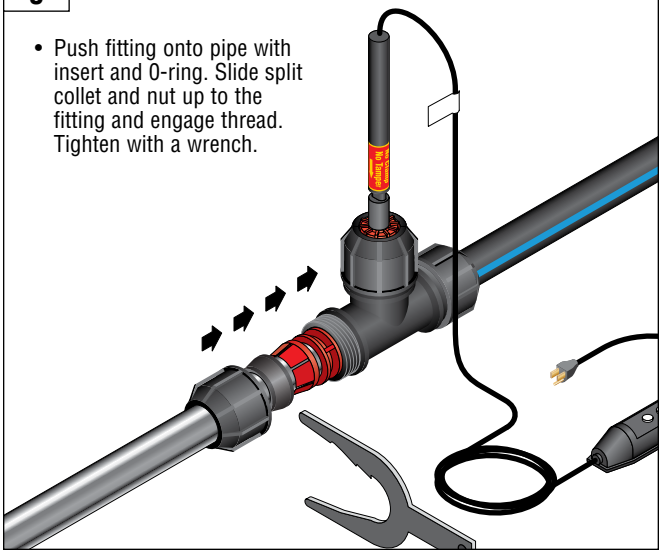
- Push fitting onto pipe with insert and O-ring. Slide split collet and nut up to the fitting and engage thread. Tighten with a wrench.



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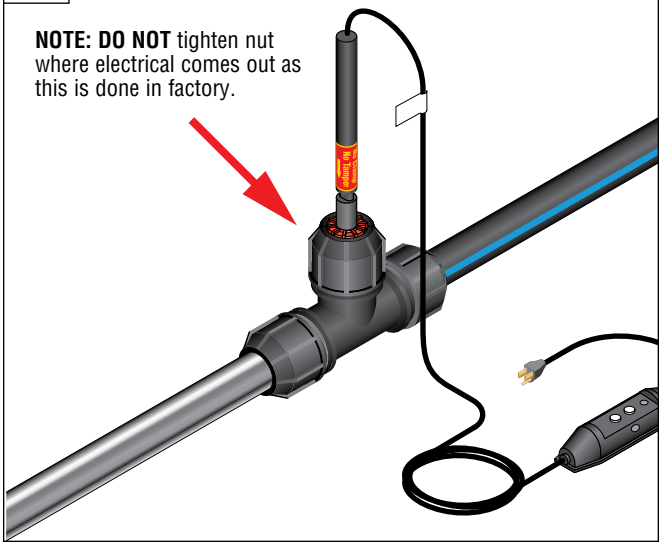
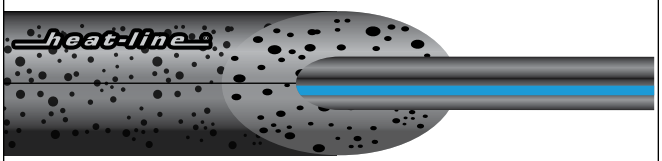
NOTE: DO NOT tighten nut where electrical comes out as this is done in factory.



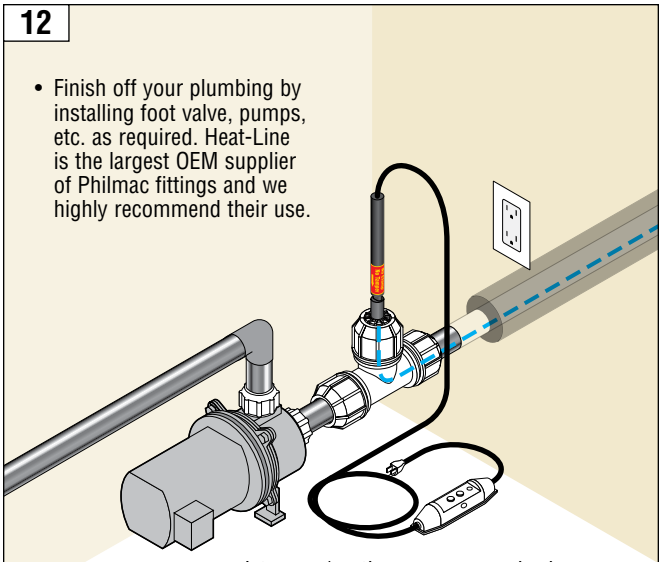
11

- In areas where the pipe cannot be buried (or above ground) or is close to the ground surface (less than 6") always install Heat-Line weather proof insulation for heat loss reduction and further mechanical protection.



12

- Finish off your plumbing by installing foot valve, pumps, etc. as required. Heat-Line is the largest OEM supplier of Philmac fittings and we highly recommend their use.

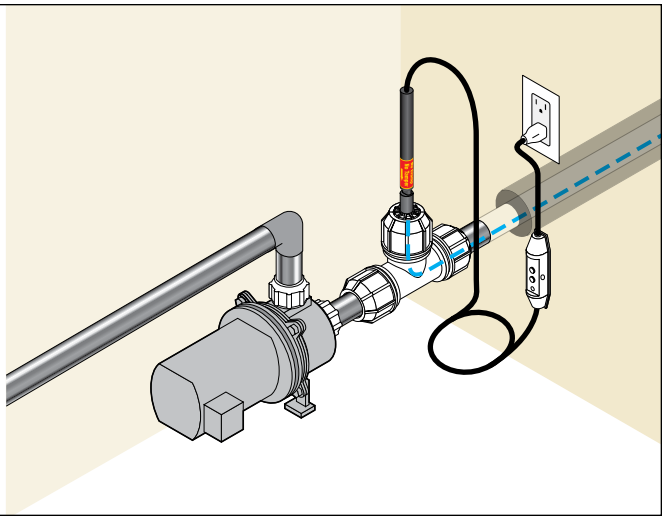


Jet pump/suction pump example shown

13

- After all plumbing fittings have been completed check the operation of the pressure system.

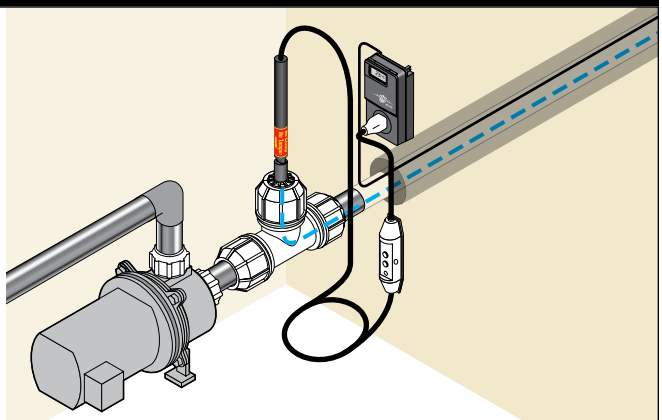
It is now time to energize your Heat-Line system. Carefully follow the Electrical System Connection instructions on Page 5.



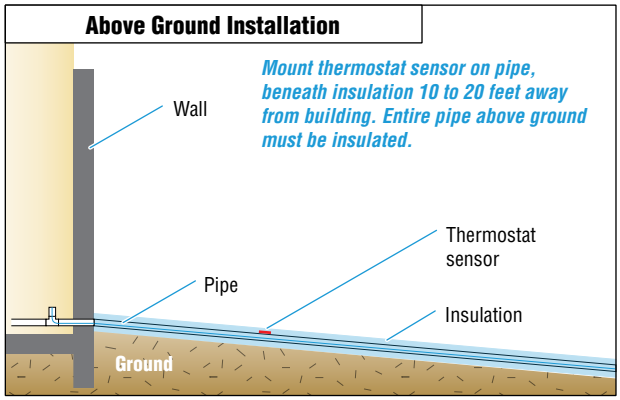
Thermostat Sensor Location and Insulation Installation

Thermostats and timers are not required to operate the Heat-Line system. A thermostat however can be added to duty cycle the heating cable in an on/off operation saving power consumption and used to maintain a certain pipe temperature.

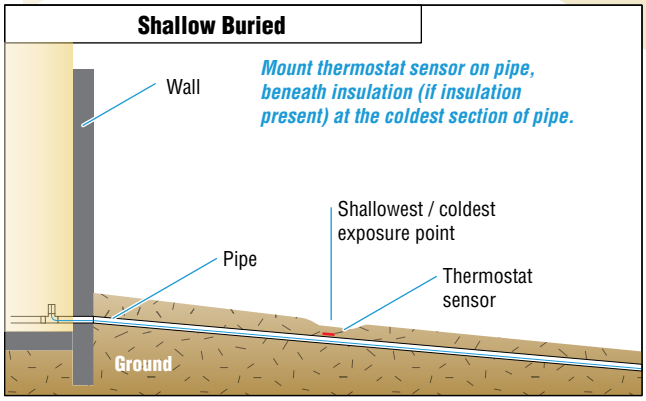
Insulation is recommended for all new pipe installations, even where the pipe is to be buried. For existing pipe applications, insulation is only required where the pipe is exposed to ambient outdoor temperatures, and/or where the pipe is above the ground. Insulation aids in heat retention making the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



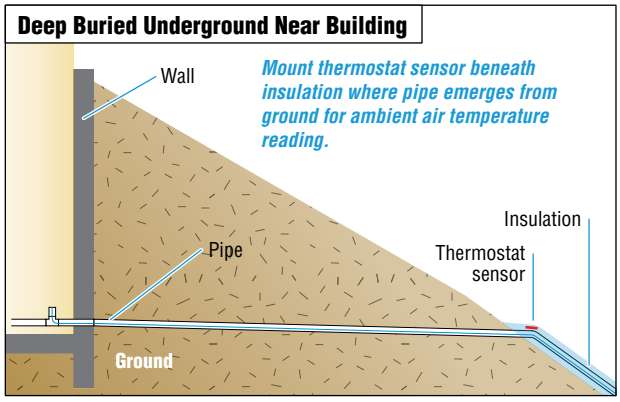
Above Ground Installation



Shallow Buried



Deep Buried Underground Near Building



Electrical System Connection

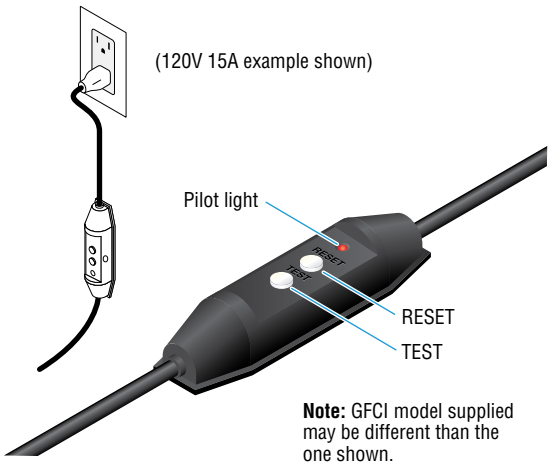
Electrical Connection for GFC (Ground Fault Plug-in) Models

A. Unpack the Heat-Line system plug from its protective package.
B. Plug into your dedicated outlet. 120V 5-15R outlet for 120V systems or 240V 6-15R outlet for 240V systems.
C. Push reset button on the cord set ground fault device until light comes 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.
D. Push test button and light will go OFF. This indicates that the electrical circuit is intact and fully protected.
E. Push reset button again and light will come ON. This indicates that your Heat-Line is working.
F. Follow this test procedure before each season and monthly while in use.

Your Heat-Line is now fully functional.

If at any time your Heat-Line system fails to work call your local electrician or Heat-Line for assistance at 1-800-584-4944.

Unplug when not in use.



Note: GFCI model supplied may be different than the one shown.

Electrical Connection for CS (Cord-Set) Models into Junction Box

Note: The "CS" version is designed to be installed by a qualified electrician and must be inspected by the governing electrical authority following completion of installation.

A. Ensure the Heat-Line system will be operated on a dedicated ground fault protected circuit with over-current protection appropriate for the circuit conductor size and heating cable length.
B. Confirm power is disconnected at the power supply prior to proceeding.
C. Remove approved junction box cover.
D. Route the Heat-Line cord-set wires into box with the supplied strain relief fitting.
E. Connect appropriate wires together using approved wire nuts. Match wires white to white, black to black, and green to green. In the case of a metal junction box/enclosure, match green to ground screw and confirm screw is tight and secured afterward.
F. Double check that the wires have been connected correctly and tight.
G. Install junction box cover.
H. Establish power to the circuit and test/reset the ground fault device for proper operation.
I. Test the GFCI at the breaker before each season and monthly while in use.

Your Heat-Line system is now fully functional.

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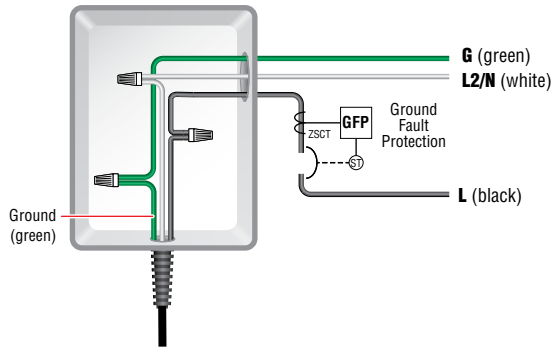
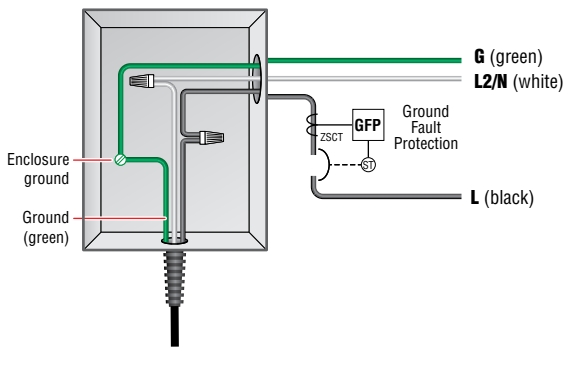
Non-Metal Junction Box



Metal Junction Box



Electrical Connection for CS models installed with the optional GFA-STAT (FPT-130)

A. Ensure the Heat-Line system will be operated on a dedicated circuit with over-current protection appropriate for the circuit conductor size and heating cable length.

Note: GFA-STAT (FPT-130) includes ground fault protection.

B. Confirm power is disconnected at the power supply prior to proceeding.

C. Remove front cover of the GFA-STAT.

D. Remove black strain relief from the Heat-Line power cord.

E. Route the Heat-Line cord-set wires through strain relief fitting supplied with the GFA-STAT.

F. Follow electrical guidelines per the GFA-STAT (FPT-130) manual included with your GFA-STAT unit.

G. Double check that the wires have been connected correctly.

H. Establish power to the circuit and test/reset the ground fault device for proper operation.

I. Test the GFA-STAT GFCI before each season and monthly while in use.

Your Heat-Line system is now fully functional.

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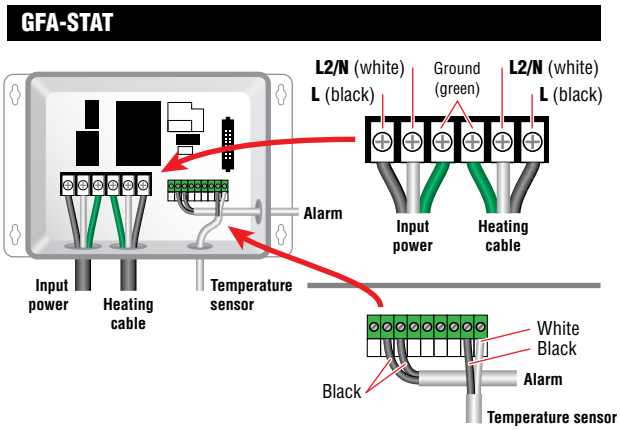


Limited Warranty

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 Heat-Line 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, which ever occurs first.

EXTENDED WARRANTY PERIOD: 120 months from date of purchase or 123 months from date of manufacture, which 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.

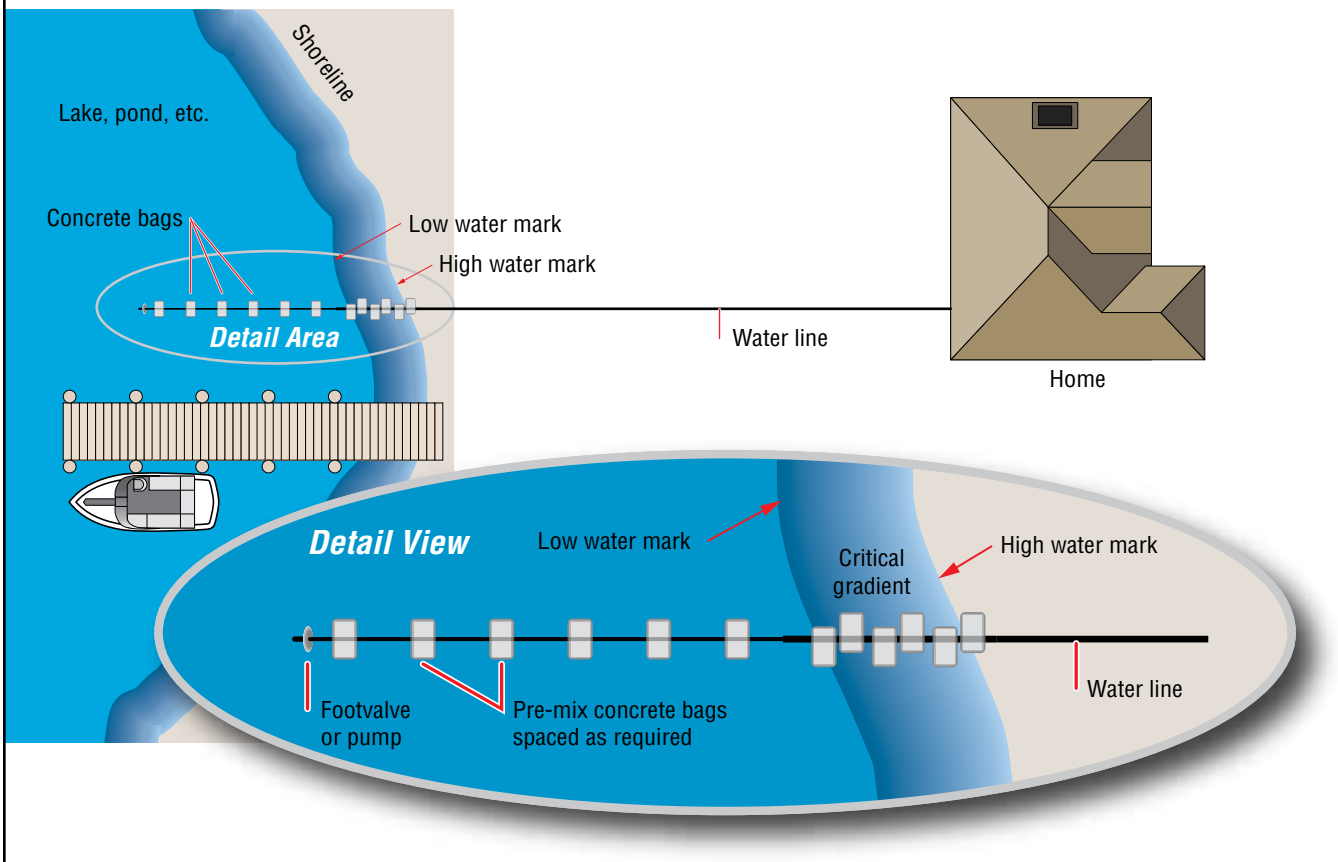
WARRANTY EXCLUSIONS: As to any Heat-Line product after the expiration of the time period of the warranty applicable thereto as set forth above. There will be no warranties including any implied warranties of merchantability or fitness for any particular purpose. No warranties or representations at any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

LIABILITY LIMITATION: In no event shall Heat-Line be 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.

Weighting/Ballasting Water Pipes in Lakes

Note: There are various methods of weighting pipes down, but we have noted the "Pre-mixed Concrete Bag Method" to be a great option. A simple and excellent alternative to stones, blocks and other methods.

Rationale: The pre-mix concrete bags are generally 66 lbs and are relatively easy to handle. The bags should be placed over pipe to hold it down.



IMPORTANT

CONCRETE PRODUCTS ARE ENVIRONMENTALLY SAFE, HOWEVER, WE SUGGEST YOU CHECK WITH YOUR LOCAL AUTHORITIES BEFORE INSTALLATION.

Pre-mixed concrete is packaged in plastic and paper. We recommend paper as it will naturally deteriorate and break down.

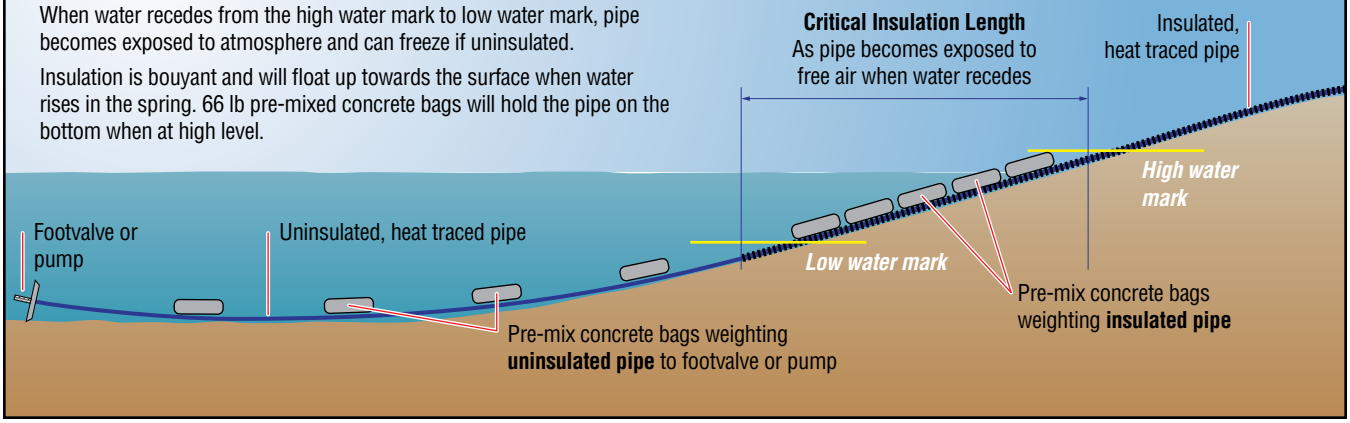
Concrete bags are placed or dropped "dry" over the pipes allowing water to seep in and cure in place.

When in water, straddle the pipe and drop the dry bag onto the pipe. Do not try to move the bag once dropped as it will immediately break down.

Side View

When water recedes from the high water mark to low water mark, pipe becomes exposed to atmosphere and can freeze if uninsulated.

Insulation is bouyant and will float up towards the surface when water rises in the spring. 66 lb pre-mixed concrete bags will hold the pipe on the bottom when at high level.



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1-800-584-4944
Fax: 1-705-754-4567
info@heatline.com
www.heatline.com

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.*

Heat-Line®
Warranty Form

CONGRATULATIONS!

You have just purchased the most advanced pipe freeze-protection system available on the market, backed by the finest warranty offered in the industry. Your Heat-Line 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:
- ☐ Lake / River
- ☐ Well
- ☐ 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*

Units 1 to 300 feet = $1.50 per foot OR $60.00 minimum

* 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

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(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 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.

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
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