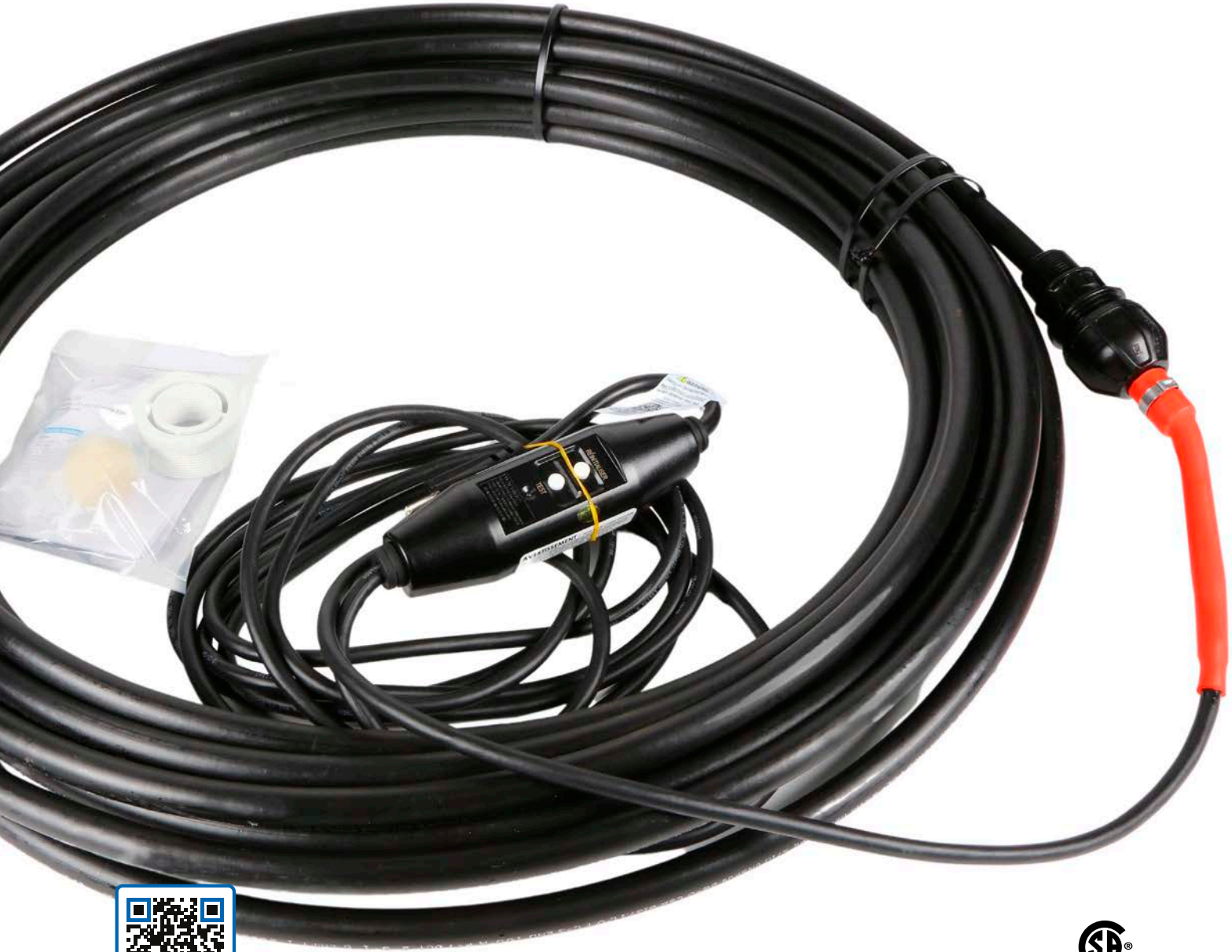
Retro-FM®

Internal Tubular Freeze Protection System for Pressurized Sewage, Force Main and Large Diameter Potable Pipe Applications.

Retro-FM (Force Main) self-regulating heating cable systems are supplied job-ready to internally heat trace pressurized sewage force main applications. Retro-FM can be easily adapted to a variety of pipes and can also be interfaced to larger diameter potable pipes by using readily available bushings and fittings.



SCAN ME

See more product information, videos, photos, technical documents, and more

C US Drinking Water

Patents USA and Canada

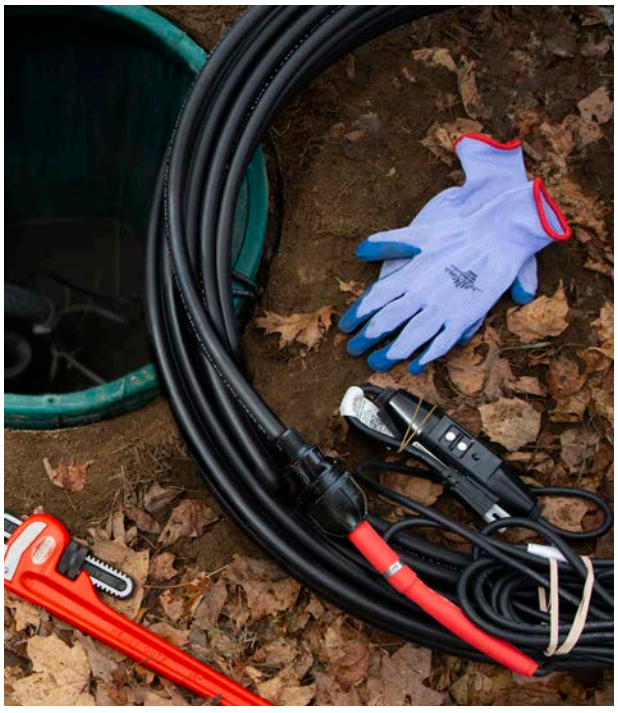
NSF/ANSI 61

Retro-FM

Features & Benefits

- The only in-pipe system designed for grey/black water and potable water applications
- Multiple fittings supplied – 1 inch non-metallic MIP staged fitting for connection and 1 inch FIP X 2 inch MIP PVC reducing bushing
- Available in a plug-in GFCI model or hard wire cord-set model depending on application
- Completely customizable for various application requirements
- Available in common lengths and long lengths
- Suitable for pipe diameters 2 inch and larger
- Withstands water pressure up to 230 PSI
- Suitable for installation in plastic or metal pipes
- Can be installed into existing pipes without excavation
- Can be pushed in pipe up to 150 feet
- Long systems can be drawn in with fish tape or twine
- Fully serviceable, can be removed if necessary
- Can be fully insulated to maximize energy efficiency
- Suitable for above ground applications with insulation
- Will never melt or overheat, even if pipe is dry

For more Features and Benefits common to all Heat-Line systems, refer to page 6.

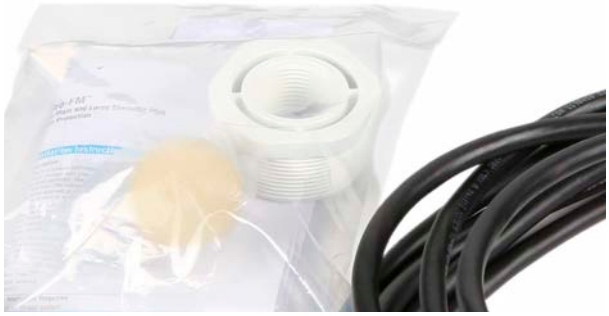


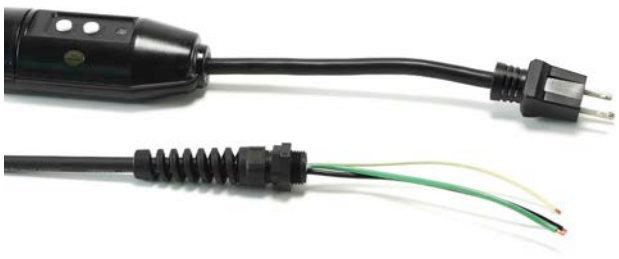
Specifications

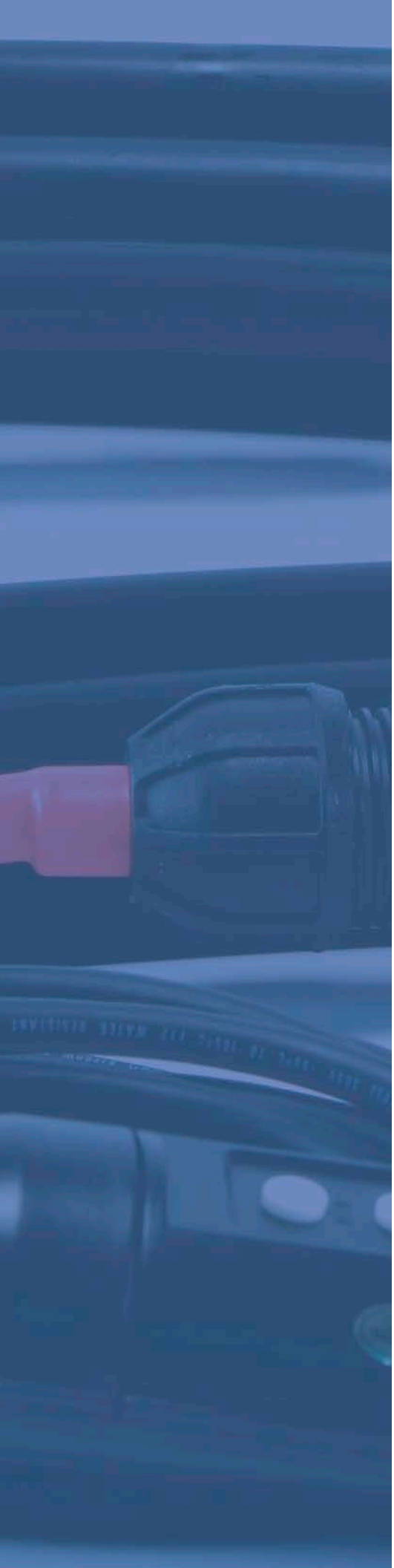
- cCSAus approved (Canada and USA) LR85446
- NSF/ANSI 61 Drinking Water Safe
- Approved for potable drinking water
- Certified Usage Type P and X Canada
- Installation Type A USA
- Self-regulating/conductive polymer heating cable
- Tubular Heater (heating cable installed inside HDPE polyethylene)
- Standard wattage 5 W/ft @ 50ºF (16 W/m @ 10ºC), special wattage available
- Available in 120V and 240V
- Max lengths 120V - 230 ft, 240V - 540 ft
- Available with either GFCI plug or CS hard wire connection
- 20 foot power supply lead
- End seal termination certified to pressures up to 230 PSI
- Standard warranty of 5 yrs with optional 10 yrs

Applications

- Rural homes, cottages, farms, commercial, industrial, municipal
- Storm drains under parking lots
- Storm sewers
- Sewers, sewage force mains
- Camps, mining
- Wherever blasting would be required to reach frost line







Internal Tubular Freeze Protection

Retro-FM is a tubular self-regulating heating system designed for use in pressurized sewage and greywater force mains and large diameter pressurized potable water pipes.

CSA/NSF Approved

Retro-FM is cCSAus NSF/ANSI 61 Drinking Water approved, usage P and X. The core tube is constructed of HDPE (high density polyethylene) and will push inside most pipes for long distances. It can also be drawn in with a fish tape or rope. Retro-FM utilizes a conductive polymer tubular heater technology, which provides a barrier from fluids while providing extremely efficient freeze protection.

Protects Potable Water Pipes

Retro-FM is designed to protect many large pressurized pipe systems that contain fluids that are compatible to be in contact with polyethylene, including potable water pipes. Retro-FM (Force Main) self-regulating heating cable systems are supplied job-ready to internally heat trace pressurized sewage force main applications. Retro-FM can be easily adapted to a variety of pipes and can also be interfaced to larger diameter potable pipes by using readily available bushings and fittings.

Compatable for All Pipes

The system is compatible for use with all pipe types, including metal and non-metal. Even if the pipe is dry, the tubular heater presents no danger of overheating even when thermally insulated. This is very important for use in pipes that drain back or are periodically dry.

Customization

Retro-FM employs Heat-Line's self-regulating technology applied within a factory assembled, fusion sealed HDPE tube. The systems are custom manufactured to specified lengths and come with a 20 foot SJEOOW hard usage cord-set, with or without integral ground fault circuit protection.

Job Ready to Quickly Interface Fittings

Retro-FM is supplied job-ready with a 1 inch non-metallic MIP staged fitting to quickly interface into force main tee or wye fittings. The product can be used in a variety of applications.

Prevention or Precaution

Retro-FM can be used as a system to prevent freezing or as a precautionary system. If the system freezes, Retro-FM can be energized to begin the thawing process.

No Need to Excavate

Retro-FM provides freeze protection for existing problematic pipes without the need to excavate. Insulation and thermostatic controls can be added to optimize energy efficiency as required.

Retro-FM | Product Code Guide

Example: **FM – 5 – 100 – GFC**

Product

FM	120 V Retro-FM
FM2	240 V Retro-FM

Nominal Power Output

5	5 W/ft @ 50°F (16 W/m @ 10°C)
8	8 W/ft @ 50°F (26 W/m @ 10°C)

Cord-Set Type

GFC	Ground fault protected 5-15 P 120 V / 6-15 P 240 V
CS	Cord connected (no GFCI)

Length of System

	GFC Ground Fault Protected *Max length*	**CS** Cord Connected (no GFCI) *Max length*
5 W/ft 120 V	230 ft	230 ft
8 W/ft 120 V	150 ft	150 ft
5 W/ft 240 V	460 ft	540 ft
8 W/ft 240 V	300 ft	400 ft

NOTE: Installers must provide 20 Amp circuits for CS circuit lengths greater than 460 ft for 5 W/ft and 300 ft for 8 W/ft systems.

Retro-FM | Accessories

HLJ-STAT	120V plug-in thermostat (GFC)
HLA-120	120V plug-in thermostat (GFC)
GFA-STAT	120/240V hard wire thermostat GFEP (CS)
TIMER-120P	120V plug-in timer (GFC)
TIMER-240P	240V plug-in timer (GFC)
TIMER-CS	120/240V hard wire timer (CS)
MA-10	120/240V GFCI/ELCI (CS)
INSUL-2.00	Insulation sleeve for 2 inch ID pipe (2 5/8 inch ID, 6 ft long)
INSUL-3.00	Insulation sleeve for 3 inch ID pipe (3 ½ inch ID, 6 ft long)
INSUL-4.00	Insulation sleeve for 4 inch ID pipe (4 ½ inch ID, 6 ft long)
HLP-TAPE	Tape for insulation sleeve butt joints (100 ft)
INSUL-FOIL	Aluminum bubble foil insulation (16 in wide, sold by the foot)
INSUL-TAPE	All weather aluminum foil tape (150 ft)
WARRANTY	Extended 10 year limited warranty

Retro-FM | Sample Rural Septic Application