

FREEZEPRO.

Frost Protection Systems



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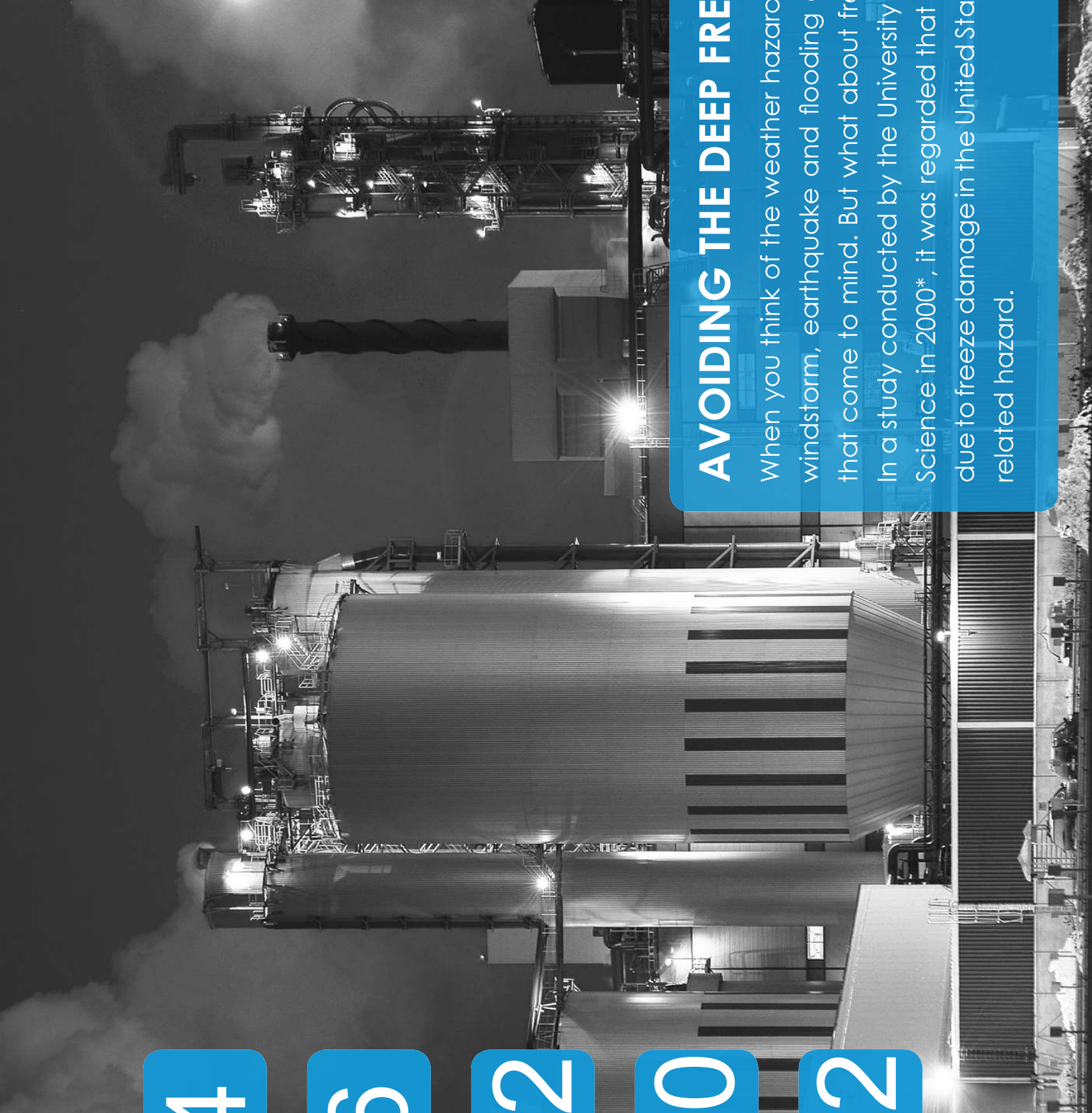
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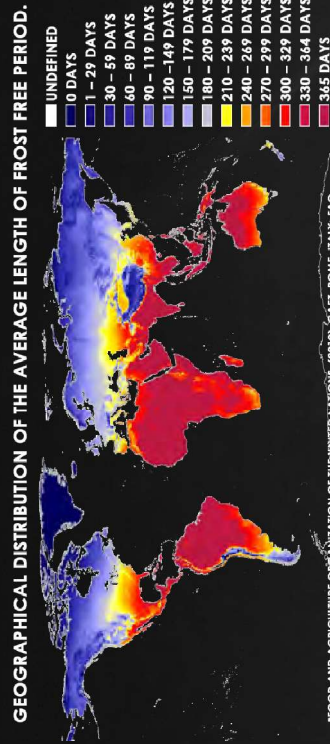
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FREEZEPROTECT

AVOIDING THE DEEP FREEZE:

When you think of the weather hazards that threaten your facility, you probably think of windstorm, earthquake and flooding are certainly that come to mind. But what about freeze-ups and snow? In a study conducted by the University of California, San Diego in 2000*, it was regarded that more economic damage due to freeze damage in the United States than to any other related hazard.



Most industrial fluids or substances have rigorous storage and temperature requirements. When these temperatures are particularly troublesome especially when maintaining substances with varied temperature requirements. When these temperature articles are transported, stored, or handled in extreme temperature conditions, then damage can occur. This can be avoided by simply installing an insulated heating system/jacket on applications that are susceptible to severe weather conditions.

FreezePro® Frost Protection Systems provide superior heating solutions for a multitude of applications that are vulnerable to harsh or cold weather conditions. FreezePro® Frost Protection Systems offer an all-in-one energy efficient insulation solution to minimize downtime, reduce costs, increase revenues, and improve operational efficiencies.

Unlike most removable insulation systems, FreezePro® Frost Protection standard, universal sizes that are available for off-the-shelf delivery. FreezePro® Frost Protection Systems are designed to fit an array of sizes — and can be used on almost any pipe or vessel that requires freeze or frost protection, temperature or chemical stability, and flexible encapsulation.

DID YOU KNOW ...

There are two corrective maintenance types – planned and unplanned (reactive) maintenance. Unplanned, breakdown maintenance costs are 3-9 times more expensive than planned maintenance.

*Take a look at our “Cost Comparison Breakdown” example in the table below to see how you can save with just one FreezePro® Frost Protection Systems Insulation Jacket.

COST COMPARISON BREAKDOWN

Unplanned Maintenance vs. Planned Maintenance

ITEM:	6-Inch Flanged Gate Valve	UNITS:	1
UNPLANNED MAINTENANCE (REACTIVE) COSTS			
LABOR COSTS (REMOVAL/INSTALLATION):	LOW (\$): \$1,000	AVERAGE (\$): \$2,000	HIGH (\$): \$3,000
MATERIAL COSTS (PARTS/EQUIPMENT):	\$500	\$1,000	\$1,500
TOTAL COSTS (LABOR + MATERIAL)	\$1,500	\$3,000	\$4,500
PLANNED MAINTENANCE (PROACTIVE) COSTS			
ITEM:	DESCRIPTION:	UNITS:	TOTAL:
FPV3618	FreezePro® Valve 36" L x 18" W	1	\$295.98

When maintenance is performed on a regular basis, the cost of unplanned maintenance is significantly reduced. FreezePro® Frost Protection Systems provide a cost-effective solution to prevent equipment downtime and the associated costs of unplanned maintenance.

The Predicament:

Every pipe or vessel is subject to heat loss when its temperature is greater than the ambient temperature. While an insulated pipe can withstand cold temperatures longer than an uninsulated pipe, the contents of the pipe will cool to the temperature of the surrounding environment. If the air temperature remains low enough for an extended period, the results can be both costly and inconvenient.



Companies make it impractical to maintain insulation, then a heat tracing system is installed. Instead of heat tracing, thermal insulation is used to maintain the temperature of the pipe. When heat tracing and insulation are combined, the results produce a more efficient system that can protect against damage caused by freezing temperatures.

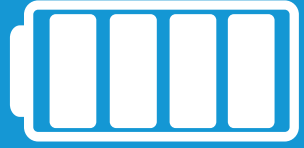
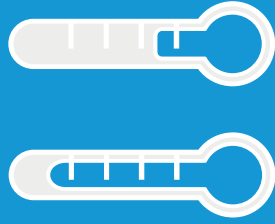
Over 600 times more energy each year than all of the energy used by CFLs), ENERGY STAR Appliances and ENERGY STAR combined. (U.S. Environmental Protection Agency, ENERGY STAR Calculations performed by B. McNary, October 2006.)

IN THE UNITED STATES

Estimated Overall Losses (US \$Millions)	Estimated Insured Losses (US \$Million) *
7,000	5,100
3,800	2,900
500	150
-	-
100	60
1,300	Minor market loss
12,400	8,200

*D.E. Munchich Re

FACILITATE TEMPERATURE CONTROL OF A PROCESS



CONTROL SURFACE TEMPERATURES PERSONNEL PROTECTION AND COMFORT

CONSERVE ENERGY BY REDUCING HEAT LOSS OR GAIN

Freeze Protection Systems IN ...

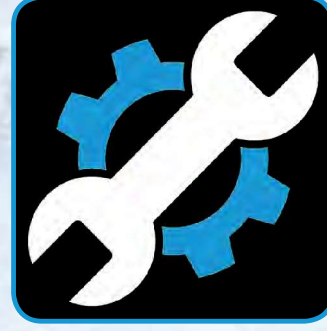
- Power plants
- Food processing
- Refineries
- Education / Schools
- Healthcare / Hospitals
- Refrigeration storage
- Biomedical
- Solar plants
- Container
- Material handling
- Cement and asphalt

Freeze Protection Systems ON ...

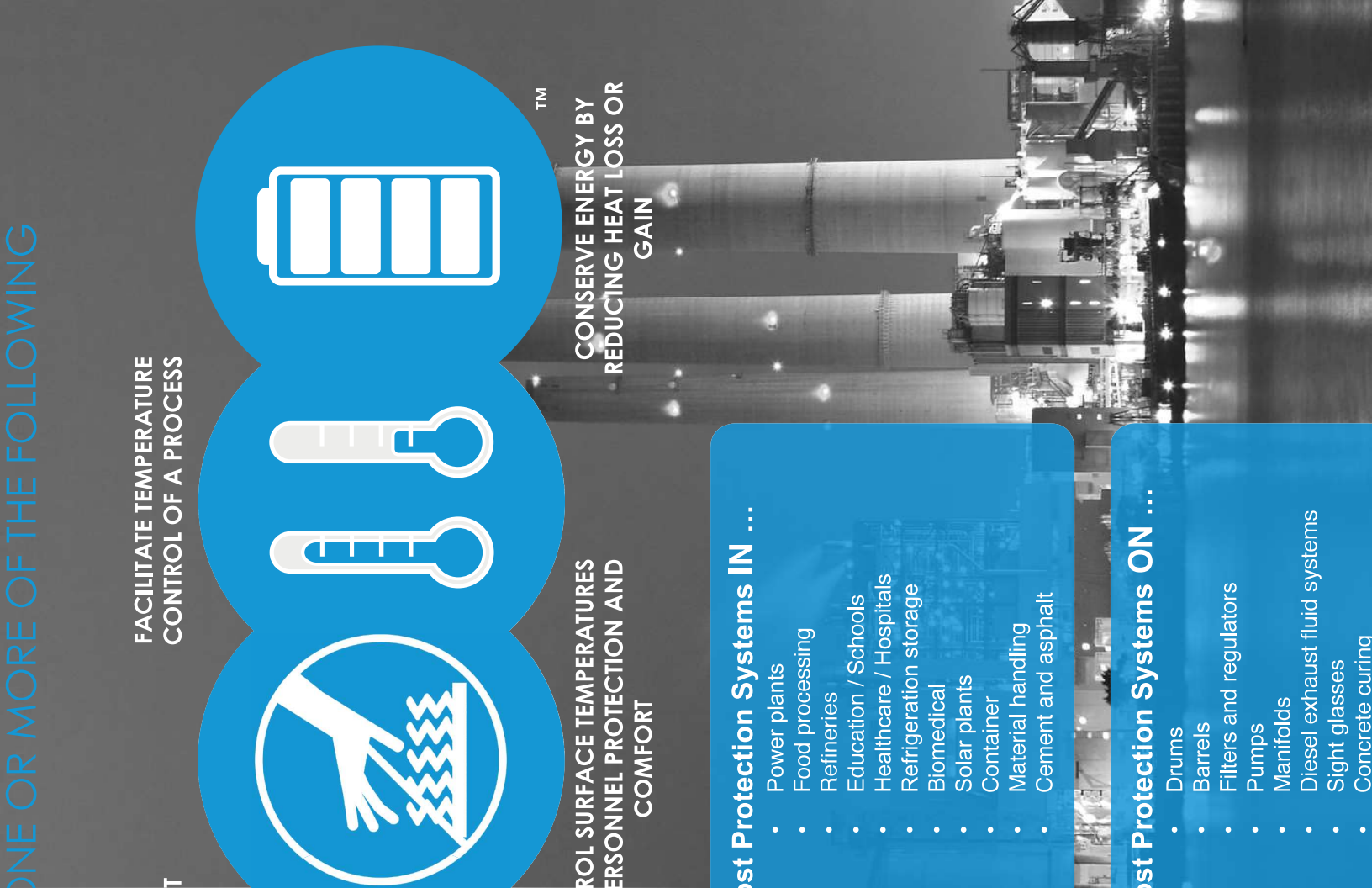
- Drums
- Barrels
- Filters and regulators
- Pumps
- Manifolds
- Diesel exhaust fluid systems
- Sight glasses
- Concrete curing

FreezePro® Frost Protection Systems deliver a barrier of uniform, direct needed most - to tanks, pipelines, drums, buckets, IBC totes, and other equipment. The advanced, all-in-one design of FreezePro® eliminates the product purchases and simplifies the entire implementation process while The end result is an efficient heating solution with the most cost-effective damage caused by harsh or freezing temperatures.

- » FreezePro® Frost Protection Systems are used to **PROTECT FROM FREEZING** and help prevent costly damage from occurring
- » FreezePro® Frost Protection Systems create a **SAFER WORKING** for your employees and increase equipment lifespan by protecting from extreme temperatures.
- » FreezePro® Frost Protection Systems are made with **STANDARD AVAILABLE, OFF-THE-SHELF COMPONENTS** that can be used in almost any application requirement.
- » FreezePro® Frost Protection Systems are **COMPLIANT WITH TOUCH STANDARDS** for exposed surfaces (if there is a potential for contact)
- » FreezePro® Frost Protection Systems deliver an **INCREASED PRODUCTION CAPACITY** to enhance production capacity at lower temperatures and minimizing heat loss to keep equipment running at higher temperatures.
- » FreezePro® Frost Protection Systems **ALL-IN-ONE DESIGN** : eliminates the need for additional/expensive add-ons.



When used as a preventive maintenance program, FreezePro® Frost Protection Systems pay for themselves the first freeze of winter. No other preventive maintenance program will pay for itself as quickly — and with as little investment — as FreezePro® Frost Protection Systems.



FreezePro® Wrap Insulation Jackets are suitable for straight sections of involve complex shapes, such as flanges, couplings, and the like.

Applications:

- Fittings
- Pipes
- Manifolds
- Flanges
- Strainers
- Valve & pipeline strainers
- Ball reducers
- Industrial HVAC equipment
- Reducing sockets
- Sockets parallel & taper
- Hex nipples
- Bronze screw valves
- Flange strainers
- Steam traps:
 - Thermo-dynamic steam traps
 - Float & thermostatic steam traps
 - Balanced pressure steam traps
 - Inverted bucket steam traps
 - Bimetallic steam traps



Wrap Insulation Jackets are constructed in three layers: the inner (hot face) is made of Gray / Grey Silicone -65°F (-54°C) to 1000°F (538°C).

The middle layer (hot face) is made of Gray / Grey Silicone -65°F (-54°C) to 1000°F (538°C).



FreezePro® Tote Tank Insulation Jackets are constructed in three layers:

The inner (hot face) is made of PVC Cloth -40°F (-40°C) to 175°F (80°C).

The middle layer (hot face) is made of Black Foam Rubber -70°F (-57°C) to 257°F (125°C).

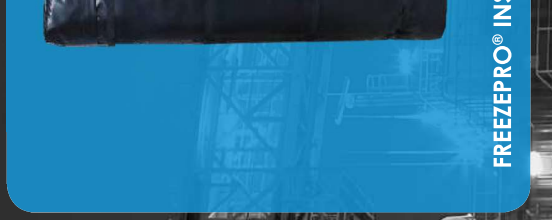
The outer (hot face) is made of PVC Cloth -40°F (-40°C) to 175°F (80°C).

FREEZEPRO® TOTE TANK:

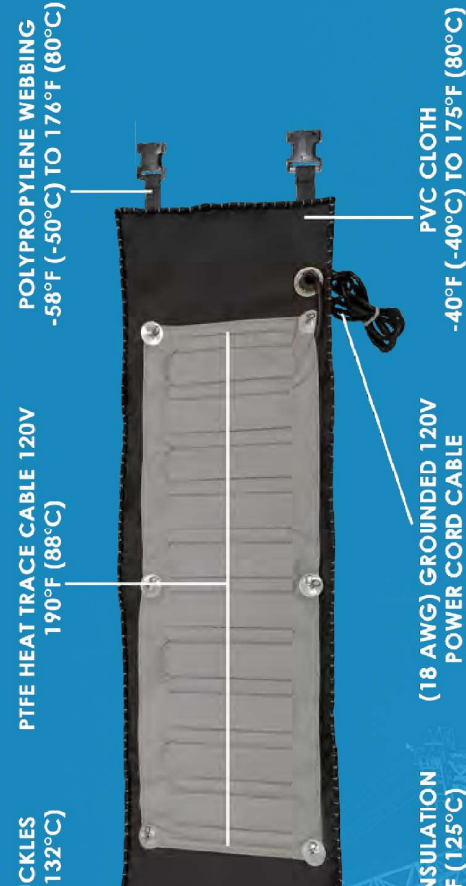
FreezePro® Tote Tank Insulation Jackets are designed to ensure temperature-sensitive products during the transport, handling, and storage of bulk materials.

Applications:

- IBC tote tanks
- Pallet tanks
- PVC tanks
- Container components
- Stainless steel totes
- Tote tanks
- Portable tanks
- Vertical tanks
- Horizontal tanks
- Bulk containers
- Plastic containers
- Intermediate bulk containers



FREEZEPRO® IN



FreezePro® Wrap for your equipment is a lot easier than you might think. Measure, and you are ready to go!

Video Tutorial: [How to Measure FreezePro® Wrap](#)

Whether the (1) CIRCUMFERENCE OR (2) DIAMETER:



DIAMETER

Which method of measurement you use is up to you. The diameter method is the easiest, but you only need to find your diameter if you are measuring a pipe or cylinder. The circumference method is the most accurate, but you need to measure the circumference of the object.

OR

MEASURING THE DESIRED WIDTH:



WIDTH

Whether measuring the circumference or diameter, or the desired width to determine the width of the equipment you want to insulate.

When measuring for FreezePro® Wrap, please follow all safety precautions and use proper safety aids such as: protective gloves and suitable protective clothing. Never use a metal

NOTE: Now that you have your measurements, you can use the graph below to determine the appropriate FreezePro® Wrap part number. Diameter and circumference (length) are listed in the table rows vertically and width measurements are listed in the table columns horizontally.

WID

CIRCUMFERENCE

DIAMETER

CIRCUMFERENCE	DIAMETER	6in (152mm)	12in (305mm)
0in - 6in (0mm-152mm)	0in-2in (0mm-51mm)	FPW 1206	FPW 1212
6in-13in (152mm-330mm)	2in-4in (51mm-102mm)	FPW 1806	FPW 1812
13in-19in (330mm-483mm)	4in-6in (102mm-152mm)	FPW 2406	FPW 2412
19in-25in (483mm-635mm)	6in-8in (152mm-203mm)	FPW 3006	FPW 3012
25in-31in (635mm-787mm)	8in-10in (203mm-254mm)	FPW 3606	FPW 3612
31in-38in (787mm-965mm)	10in-12in (254mm-305mm)	FPW 4206	FPW 4212
38in-44in (965mm-1118mm)	12in-14in (305mm-356mm)	FPW 4806	FPW 4812
44in-53in (1118mm-1346mm)	14in-17in (356mm-432mm)	FPW 6006	FPW 6012

FOR EXAMPLE:

The **CIRCUMFERENCE** (length) is 20in and the desired

OR

The **DIAMETER** (length) is 6in and the desired width is 12in

FreezePro® Tote for your equipment is a lot easier than you might think. All you need to do is measure, and you are ready to go!

Video Tutorial: How to Measure FreezePro® Tote

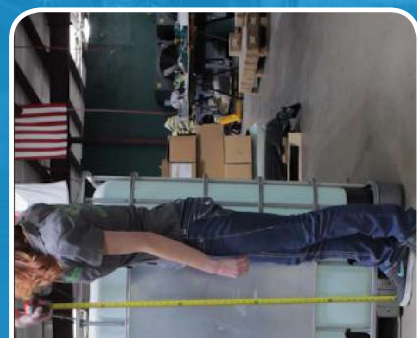
MEASURING THE CIRCUMFERENCE:



CIRCUMFERENCE



MEASURING THE HEIGHT:



HEIGHT

HEIGHT

CIRCUMFERENCE	42in (1067mm)	48in (1219mm)	54in (1372mm)	(1067mm)
0in-192in (0mm-4877mm)	FPT 19242	FPT 19248	FPT 19254	FPT 19254

FOR EXAMPLE: The CIRCUMFERENCE (length) is 167in and the height is 42in.

4. *OPTIONAL Find the right FreezePro® Tote Lid: (So you can measure the height)

WIDTH

LENGTH

42in (1067mm)	N/A	40in (1016mm)	42in (1067mm)	46in (1168mm)	N/A
48in (1219mm)	FPTL 4840	FPTL 4840	FPTL 4842	FPTL 4842	FPTL 4842

When measuring for FreezePro® Tote, please follow all safety precautions and use proper safety aids such as: protective gloves and suitable protective clothing. Failure to do so

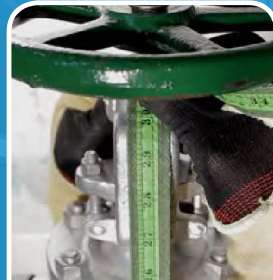
FreezePro® Valve for your equipment is a lot easier than you might think. Measure, and you are ready to go!

Video Tutorial: [How to Measure FreezePro® Valve](#)

of the neck and measure for the **CIRCUMFERENCE**:



CIRCUMFERENCE



DESIRED WIDTH:



WIDTH

atches past the outer edges of rigid

or measuring for FreezePro® Valve, please follow all safety precautions and use proper safety aids such as: protective gloves and suitable protective clothing. Never use a metal

Failure to do so may result in injury.

NOTE: Now that you have your measurements, you can use the graph below to determine the appropriate FreezePro® Valve part number. Circumference (length) measurements are listed vertically and width measurements are listed in the table columns horizontally.

WIDTH

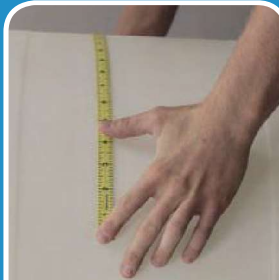
CIRCUMFERENCE	6in (152mm)	12in (305mm)	18in (457mm)
0in - 7in (0mm-178mm)	FPV 1206	FPV 1212	FPV 1218
7in-13in (178mm-330mm)	FPV 1806	FPV 1812	FPV 1818
13in-19in (330mm-483mm)	FPV 2406	FPV 2412	FPV 2418
19in-25in (483mm-635mm)	FPV 3006	FPV 3012	FPV 3018
25in-31in (635mm-787mm)	FPV 3606	FPV 3612	FPV 3618
31in-37in (787mm-940mm)	FPV 4206	FPV 4212	FPV 4218
37in-42in (940mm-1067mm)	FPV 4806	FPV 4812	FPV 4818
42in-49in (1067mm-1245mm)	FPV 5406	FPV 5412	FPV 5418
49in-55in (1245mm-1397mm)	FPV 6006	FPV 6012	FPV 6018

FOR EXAMPLE: The **CIRCUMFERENCE (length)** is 30in and the **desired**

FreezePro® Drum for your equipment is a lot easier than you might think. Measure, and you are ready to go!

FreezePro® Tutorial: How to Measure FreezePro® Drum

How to Measure the CIRCUMFERENCE:



CIRCUMFERENCE



How to Measure the HEIGHT:



HEIGHT

HEIGHT

CIRCUMFERENCE

0in-35in (0mm-889mm)	15in (381mm)	3 (864)
36in-72in (914mm-1829mm)	FPD 4515	N
	N/A	FPD

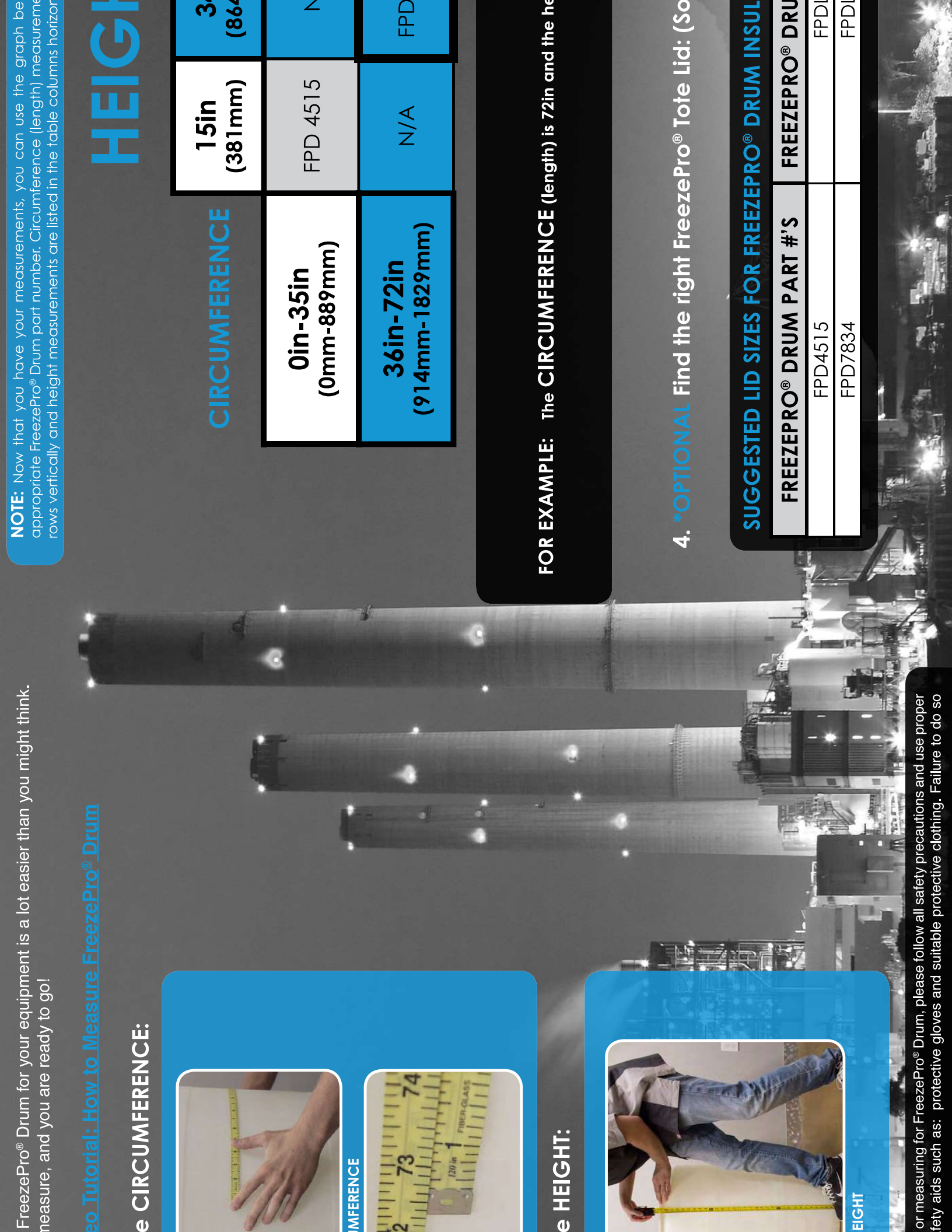
FOR EXAMPLE: The **CIRCUMFERENCE** (length) is 72in and the height is 15in.

4. ***OPTIONAL** Find the right FreezePro® Tote Lid: (See the table below)

SUGGESTED LID SIZES FOR FREEZEPRO® DRUM INSULATION

FREEZEPRO® DRUM PART #'S	FREEZEPRO® DRUM PART #'S
FPD4515	FPD4515
FPD7834	FPD7834

When measuring for FreezePro® Drum, please follow all safety precautions and use proper safety aids such as: protective gloves and suitable protective clothing. Failure to do so



SS WIRE, PLIERS & SAFETY GEAR.

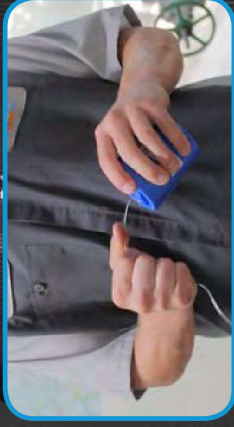
Wrap Frost Protection Jacket around the application you wish to insulate:

Connect the wire into a loop and pull out a small amount of wire. Trim the SS Wire at the cylinder:

Wrap Frost Protection Jacket by lacing the wire between the SS Lacing Hooks:

Secure the wire together to give it a secure fit: **(DO NOT**

Wrap Frost Protection Jacket into the nearest power socket; **(Optional)** Connect the Frost Protection Jacket into the receiving female power socket (attached to the Frost Protection Jacket) and plug it into the nearest power socket.



1. Make sure that the FreezePro® Frost Protection Jacket is in the correct position with the front of the jacket facing upwards:

2. Wrap the FreezePro® Frost Protection Jacket around the application you wish to insulate:

3. Connect the buckle in the middle of the strap to secure the FreezePro® Frost Protection Jacket in place: **(DO NOT OVER TIGHTEN)**

4. Buckle and secure the rest of the straps: **OVER TIGHTEN**

5. Plug the FreezePro® Frost Protection Jacket into the nearest power socket; **(Optional)** Connect the Frost Protection Jacket (attached to the FreezePro® Frost Protection Jacket) into the receiving female power socket (located on the Frost Protection Jacket) and plug it into the nearest power socket.

6. Place the FreezePro® Lid (if purchased) on top of the Frost Protection Jacket application. Buckle and secure the lid: **OVER TIGHTEN**



JOINT HOG RINGS

HOG RING is ideal for fastening or tie-downs with sharp tips for piercing resistant to rust.

CR



PTFE HEAT TR

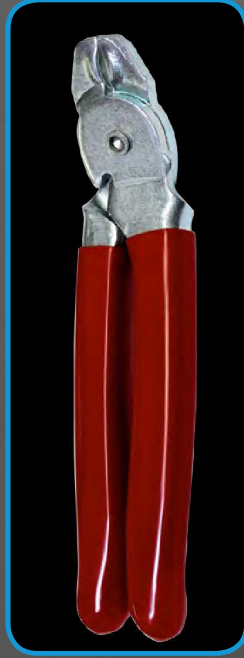
PTFE SELF-REGULATING products are designed to sense heat at any point along the cable and respond to local temperature. Trace cables can maintain temperature (88°C) and provide frost prevention maintenance of piping.

Part # HE-C-08, H

SAFETY LOCK WIRE

SAFETY LOCK WIRE is used as a locking device for ladders and other parts for safety. The 1/8" diameter safety wire is used with our safety wire installation.

LW304



45-DEGREE HOG

45-DEGREE HOG RING Pliers hold the ring in jaws during installation. The tilt allows for added access. The cushion grip handle may be used while keeping your hands dry.

Part # C

WASHERS & WASHERS

WASHERS are used in lacing insulation blankets. They are made of high strength material. Lacing washer. Lacing washer. Lacing the wire with the hook.

-HW

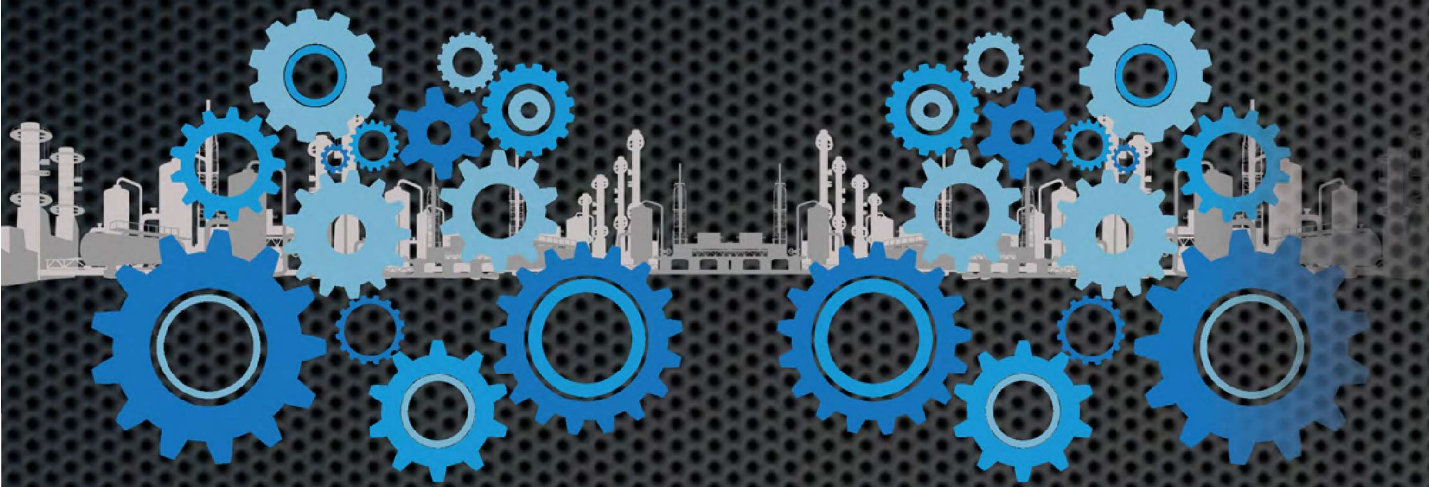


ETC SINGLE STAGE CONTROLLER

ETC SINGLE STAGE CONTROLLER is a microprocessor based controller for switching 120V heating or cooling applications. It provides a wide range of applications and is suitable for any application. It is available in 120V and 240V. It is suitable for any application. It is available in 120V and 240V. It is suitable for any application. It is available in 120V and 240V.

Part # HE





UniVest® Insulation Systems:

Specifically designed to meet heat and process requirements for high-temperature applications.



FirePro® Fire Protection Systems:

Specifically designed for passive fire protection and fireproof applications compliant with the UL 1709 testing standard.



ISOCOVERS Insulation Systems:

Specifically designed to meet heat and process requirements for high-pressure steam applications.