

Accu-Freeze^(patented)

THE CONTROLLED LIQUID NITROGEN PIPE FREEZING SYSTEM

Z-SAWS™



Setting up to freeze multiple lines.



Wrapping a 6-inch pipe with copper tubing.



Accu-Freeze is portable and light and can be used anywhere.



Connecting to the liquid nitrogen and starting the freeze.

SAFETY NOTES:

- Accu-Freeze utilizes liquid nitrogen to create the cryogenic temperature necessary to form ice plugs. Safety precautions must always be taken with use of this product.
- Protective clothing i.e. gloves, goggles, etc. must be worn at all times when operating this product. Failure to do so may result in severe frostbite.
- Liquid nitrogen is heavier than air and will displace oxygen. Proper ventilation is required, especially when operating in confined areas.
- Accu-Freeze is designed to operate with liquid nitrogen tanks fitted with low pressure safety valves. Use with any tanks other than properly specified, will cause damage to the unit and possibly harm the operator. Please consult a COB Technician for further information.



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THE CONTROLLED LIQUID NITROGEN PIPE FREEZING SYSTEM



COB

INDUSTRIES, INC.

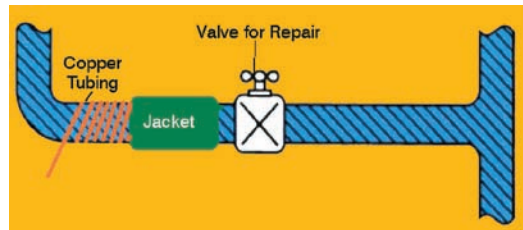
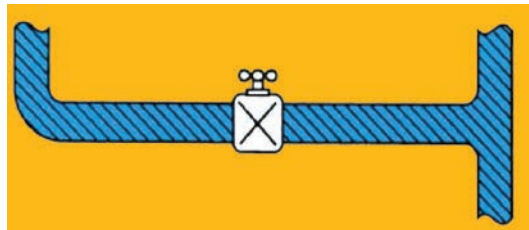
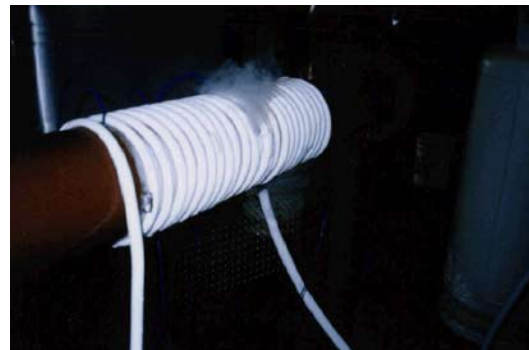
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THE CONTROLLED LIQUID NITROGEN PIPE FREEZING SYSTEM

Accu-Freeze

Accu-Freeze utilizes liquid nitrogen in a controlled system to freeze stationary liquids in a selected section of pipe or tubing. By controlling the surface temperature of the pipe, Accu-Freeze can accurately and safely form an in-line ice plug, capable of withstanding 2000 psi in pipes up to 12 inches in diameter. This temporary plug isolates the section, thus allowing repairs or modifications to be made without shutting off or draining down the entire system.

In response to this, COB Industries, Inc. introduces Accu-Freeze - the world's first controlled liquid nitrogen pipe freezing system. An Accu-Freeze ice plug starts with wrapping copper tubing and a specially designed insulated jacket around the section of pipe to be frozen. The liquid nitrogen is supplied by your local welding or gas distributor. The nitrogen is then injected through our patented control system. By constantly reading the surface temperature



Water is brought to a static condition (no flow). The Accu-Freeze wrap is placed around the pipe up stream from the section to be repaired. Next, set the recommended surface temperature of the pipe in the digital controller. Accu-Freeze takes over by automatically injecting the liquid nitrogen through the system over the in-line ice plug. Once the plug is formed, maintenance and repair can take place without draining or shutting off the entire system.

The Accu-Freeze Technique

Throughout Qwik-Freezer's twenty five years of pipe freezing and maintenance, our customers have requested pipe-freezing systems that will:

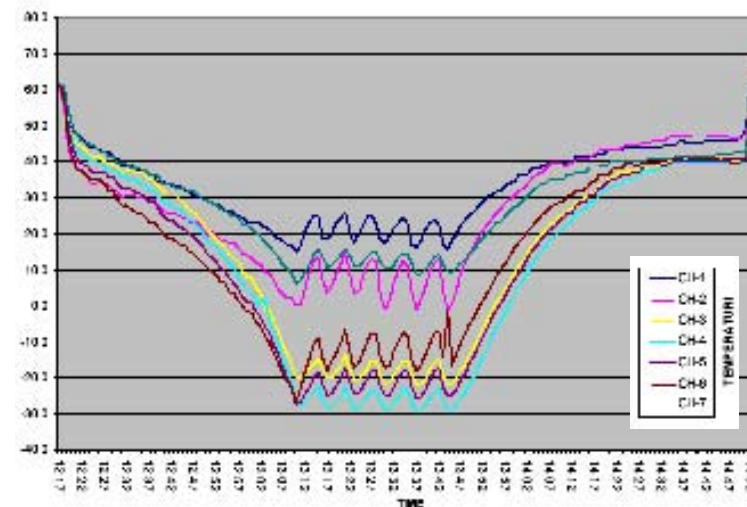
- be able to freeze large diameter pipe
- control the entire freeze process
- minimize exposure to nuclear applications

of the pipe, the Accu-Freeze system controls the flow of liquid nitrogen through the wrap while accurately and safely forming an ice plug in lines up to 12 inches in diameter.

Accu-Freeze

Safely and Reliably Freezes Your Pipe.

Accu-Freeze uses its patented control system to accurately and safely create an ice plug. The ice plug only forms beneath the Accu-Freeze coil wrap and jacket (jacket is used on a 6-12 inch pipe.) and does not expand outside of this point. This controlled plug does not create enough pressure to effect the integrity of the pipe. Pipe bursts happen when ice forms in an uncontrolled manner and creates hydrostatic pressure between ice plugs or against a closure in the line. (Care should be taken to freeze 12 inches away from any closure for every 1 inch diameter of pipe).



Graph created with available 12-channel monitor for complete recording of the entire freeze process.



Kit Contains:

- 1-AF7000 Carrying Case
- 1-AF2000 Control Solenoid Valve Header Complete
- 1-AF3000 Digital Controller Complete
- 1-AF4010 10 ft. Flexible Cryogenic Hose
- 1-AF4400 Ferrules, Fittings, Tee Connector Asst'd Pack
- 10-AF5001 Type "T" Connector Plug (Male)
- 10-AF5001 Type "T" Connector Jack (Female)
- 3-AF5004 T/C Wire @ 4 ft. With Male End Connector
- 3-AF5033 T/C Wire @ 33 ft. With Male & Female Connector
- 1-AF5005 Spool
- 6-AF6000 T/C Support Strap
- 1-AF8000 2 Channel Temp Monitor Battery Operated
- 1-AF7100 Operating Manual
- 1-AF7200 Insulated Gloves
- 1-AF7300 Safety Glasses
- 1-AF9000 6 inch to 12 inch Insulating Jacket
- 1-AF9035 35 psi Relief Valve
- 1-AF9050 50 psi Relief Valve
- 1-AF9516 Roll of Soft Copper Tubing (5/16" or 1/4")