

DRAINCHEM

DRAIN MAINTENANCE PRODUCTS AND SOLUTIONS

Qwik-Freezer™ equipment utilises liquid carbon dioxide (CO₂) to freeze stationary water and other liquids in selected sections of pipe or tubing. By producing very low "dry ice" temperatures, Qwik-Freezer™ forms a secure in-line ice plug. This temporarily isolates the liquid in the system and allows repairs or modification to be made without draining or shutting off systems.



Simplifies Pipe Repair and Modification.

The Qwik-Freezer™ kit is easy to use. A specially designed jacket is wrapped around the pipe at the point where the freeze is required. A nozzle on the jacket is then coupled to a cylinder of liquid CO₂ by means of a high pressure hose. When liquid CO₂ is injected into the space between the jacket and the pipe, it immediately expands to form solid carbon dioxide (dry ice) at a temperature of -78°C (-108°F). This low temperature quickly freezes the contents forming a secure "ice plug" which seals the pipe. The "ice plug" forms only in the section of pipe covered by the jacket so the resulting rise in pressure is very small, and there is no damage to the pipe. The technique can be used safely on iron, lead, stainless steel, copper, brass and plastic pipe.

Major Advantages

- Saves valuable time and cost of product normally lost draining and refilling a system.
- Avoids complete shutdown of systems and equipment. (eg sprinkler or water supply system).
- Prevents waste of large amounts of liquid.
- Eliminates handling of wasted liquid.
- Safe and cost effective.
- Standard products to suit pipe and tube sizes from 3/8" to 8" (10 mm - 200 mm) diameter.
- Liquid carbon dioxide is inexpensive! Other "refrigeration" systems are more expensive.
- Long freeze length provides large plug size.
- Liquid CO₂ delivery system "Dry Ice" is notably colder than other refrigerants.
- No recalibration of Qwik-Freezer™ Products necessary.
- Qwik-Freezer™ Systems allow operators to source their own CO₂
- (no expensive refills or replacements of refrigerant).

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A Typical Qwik-Freezer™ Application: Replacing a defective valve.

The liquid is brought to a static condition.

The Qwik-Freezer® jacket is then wrapped around the pipe.

Place Jacket 1, at a nearby upstream location and Inject liquid CO₂ into the jacket.

The CO₂ rapidly freezes the liquid in the pipe, permitting valve removal for servicing or replacement.

Qwik-Freezer™ Standard Kits Contains

- ✓ Insulating pipe jackets
- ✓ Reinforced high pressure hose
- ✓ Valve Adaptor
- ✓ T - Connector
- ✓ Insulated work gloves
- ✓ Rubber mallet
- ✓ Safety glasses
- ✓ Operating manual
- ✓ Timing log
- ✓ Rigid fibre carrying case



Qwik-Freezer™ Jackets

- QF 101 for 3/8" (9.4mm) to 3/4" (18.8 mm) ID.
- QF 102 for 3/4" (18.8mm) to 1 1/2" (38 mm) ID.
- QF 103 for 1 1/2" (38mm) to 3" (75 mm) ID.
- QF 104 for 3" (87.5mm) to 4" (100 mm) ID.
- QF 106 for 5" (125mm) to 6" (150 mm) ID.
- QF 108 for 7" (175mm) to 8" (200 mm) ID

For Bigger pipes Accu-Freeze™ is available for sale or hire.

In addition to the Qwik-Freezer™ System, Drainchem offer the **Accu-Freeze™ System**, which employs liquid nitrogen as the freezing agent. With this, we can freeze liquids in pipes up to 12" (300 mm) and liquids with a freezing point as low as -196°C.

Accu-Freeze™ Technique

The liquid to be frozen, 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.