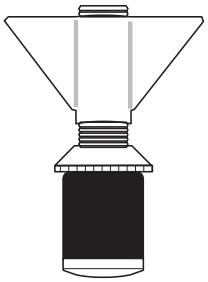
Qwik-Freezer ™

Portable Pipe Freezing Equipament



Qwik-Freezer™ equipment utilises liquid carbon dioxide (CO_2) 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 CO_2 by means of a high pressure hose.

When liquid CO_2 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 (as in a 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 CO_2 delivery system "Dry Ice" is notably colder than other refrigerants.
- Qwik-Freezer™ Systems allow operators to source their own CO_2 (no expensive refills or replacements of refrigerant).
- No recalibration of Qwik-Freezer™ Products necessary.

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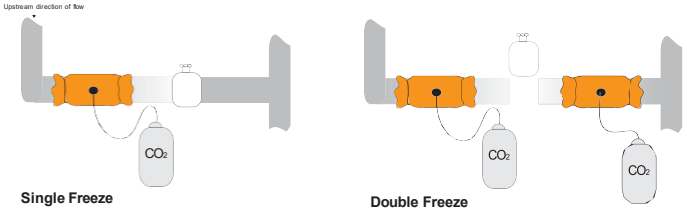
A Typical Qwik-Freezer™ Application:

Replacing a defective valve.

- The liquid is brought to a static condition.
- The Qwik-Freezer® jacket (orange) is then wrapped around the pipe.
- Place Jacket 1, at a nearby upstream location.
- Inject liquid CO_2 into the jacket.

The CO_2 rapidly freezes the liquid in the pipe, permitting valve removal for servicing or replacement.



Single Freeze Double Freeze

Jacket 2 shows positioning of a second Qwik-Freezer™ jacket and tank used when a double freeze is required to block flow on both sides of the valve.

Qwik-Freezer™ Pipe Freezing Kits:

Qwik-Freezer™ systems are supplied as kits containing different jackets and required hoses to connect to a CO_2 supply.
Our table below confirms jackets and hoses supplied in various kits.

Accu-Freeze™

In addition to the Qwick-Freezer™ System, we have 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) dia and liquids with a freezing point as low as -196ºC.

Qwik-Freezer™ Standard Kits Contain:

- 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 ¾" (18.8 mm) i.d.
- QF 102 for ¾" (18.8mm) to 1½" (38 mm) i.d.
- QF 103 for 1½" (38mm) to 3" (75 mm) i.d.
- QF 104 for 3" (87.5mm) to 4" (100 mm) i.d.
- QF 106 for 5" (125mm) to 6" (150 mm) i.d.
- QF 108 for 7" (175mm) to 8" (200 mm) i.d.

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.

Model Nº & Size range	QF101 Jacket 8" 200 mm long	QF102 Jacket 12" 305 mm long	QF103 Jacket 14" 356 mm long	QF104 Jacket 20" 508 mm long	QF106 Jacket 28" 711 mm long	QF108 Jacket 33" 838 mm long	QF800 Hose 10 ft.	QF800B Hose 16 ft.	QF801 Valve Adaptor
QF 1500 3/8"-1.5" (10mm-37mm) pipe	1	1	0	0	0	0	1	0	1
QF 2000 3/4"-1.5" (19mm-37mm) pipe	0	1	0	0	0	0	1	0	1
QF 2200 3/4"-1.5" (19mm-37mm) pipe	0	2	0	0	0	0	2	0	1
QF 3000 3/8"-3" (10mm-75mm) pipe	1	1	1	0	0	0	2	0	2
QF 4000 3/8"-4"	1	1	1	1	0	0	0	4	2
QF 4100 3"-4"	0	0	0	1	1	0	0	4	4
QF 6000 3/8"-6"	1	1	1	1	1	0	0	4	4
QF 6100 5"-6"	0	0	0	0	1	0	0	3	4
QF 8000 3/8"-8"	1	1	1	1	1	1	0	4	4
QF 8100 7"-8"	0	0	0	0	0	1	0	4	4

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