



## ARCTIC® POLAR SYSTEM

The features and benefits of what is acknowledged as the most *compact, versatile, portable* and *powerful* pipe freezing system available today.

### As a testimony to the success of Polar System:

- We are now able to offer a range of products that have zero ODP(Ozone Depletion Potential) and which conform to all current and foreseeable UK, European Directives and Montreal Protocol Signatory Legislation.
  - Polar System is used by thousands of Plumbers everyday.
  - Polar System is more economical, more portable and more efficient than any other pipe freezing system.
  - The Polar stockist has the benefit of on-going sale of Polar Spray.
1. Polar System takes less than 2 minutes to freeze a 1/2" copper pipe, using the small jacket (Jacket 0).
  2. Polar unique and patented system starts to freeze water **inside** the pipe within **five seconds**; at least 20 times faster than other gases.
  3. Just 100grams of Polar Spray freezes a 1/2" copper pipe, giving 7 freezes from one canister.
  4. One freeze will last for 20 to 30 minutes, depending on ambient temperature and further 10 second injection of Polar Spray will reinstate the ice plug for further 20 to 30 minutes. This process can be repeated **indefinitely**.
  5. Polar unique weighing scale ensures the precise amount of Polar Spray is injected and after the job is completed indicates to the operator how much gas is left in the canister.
  6. Polar System smallest jacket for 3/8" - 1/2" pipe is only 2" in length, therefore no job is too inaccessible.
  7. Polar Systems jackets are totally reusable and will last for years.
  8. Polar Spray is so quick it will freeze the pipe, allowing a repair to be finished and off site before CO2 systems have even frozen a pipe.

## FREEZING PROCEDURE

1. Select the jacket to match the pipe diameter.
2. Wrap the jacket around the pipe, seam and connector uppermost.
3. Tie the nylon cord around the outer part of the jacket and pipe, finishing in a tight knot. This can easily be wriggled free after use.
4. Connect the valve to the canister- a few turns is usually sufficient- BUT make sure that the valve pin is retracted so as not to actuate the canister! Tighten up the valve if it leaks from the base during use, but there is no need to over tighten it and you may damage it and the canister beyond repair.
5. Connect the valve to the jacket using the tubing. For instructions on how to use the push-fit connectors see inside the case of your Polar System.
6. Connect the scale to the valve/canister assembly and read off the total weight. With a full valve/canister assembly the indicator will lie on the 700g mark. When empty, the indicator will lie at the top of the zoned off area.
7. Check the amount needed to freeze the pipe – shown on the canister and inside the Polar System lid.
8. Remove the scales – (optional).
9. Open the valve enough to obtain a strong and steady flow of Polar Spray. Continue injecting until Spray escapes from the jacket, then cut back the flow until you only have vapor coming out of the jacket. DO NOT cut back too much! Ensure that at least the correct amount of Spray has entered the jacket. Check this by using the scale periodically. With more frequent use you will soon be able to judge the relationship between time and the amount of Polar Spray required quite accurately without using the scales.
10. Switch off when the correct amount has been injected. LEAVE the system connected up, and above all leave the jacket around the pipe! You may wish to extend the ice plug life beyond its initial 20 to 30 minutes of life, simply by turning on the valve for a short time, after about 15 minutes or so.
11. Wait about 1 minute and then start work on the pipe.
12. When the work has been completed and checked, dismantle the components carefully. Clean and dry any wet parts, returning them into their correct compartments.

## SIMPLE INSTRUCTIONS FOR FREEZING 7/8" COPPER PIPE

1. Select Jacket 1 within the green Velcro (this covers ½ to 7/8)
2. Wrap the jacket around the pipe, seam and connector uppermost.
3. Tie up tightly.
4. Connect the valve to the canister- check the pin is retracted first. APPLY FINGER TIGHT ONLY
5. Connect the valve to the jacket using the tubing.
6. Attach the scales and read off the total weight – say 700g.
7. 300g is needed
8. KEEP THE CANISTER UPRIGHT DURING USE.
9. Open the valve to obtain a strong flow of Polar Spray but not a continuous liquid discharge from the jacket.  
**NOTE:** If the hosing and valve are icing up you are injecting too slowly.
10. Switch off when the scale reads 400g.
11. Wait for 1 minute. Start work.
12. Remove parts in reverse order, cleaning, drying and replacing in the case.

**NOTE:** Wet pipes or jackets can make the foam stick to the pipe causing it to tear when the jacket is removed.  
**DRY EVERYTHING FIRST!**

# ALTERNATIVE PIPE FREEZING

## DOUBLE FREEZE-DOWN

Fix both jackets around the pipe at least 18" (45cm) apart. Fit both long hoses into each injector. Push the T-piece's short blue hose into the valve. Connect both long hoses into either end of the T-piece. Then follow the Freezing Procedure but inject double the amount needed for one freeze.

## VERTICAL PIPE FREEZING

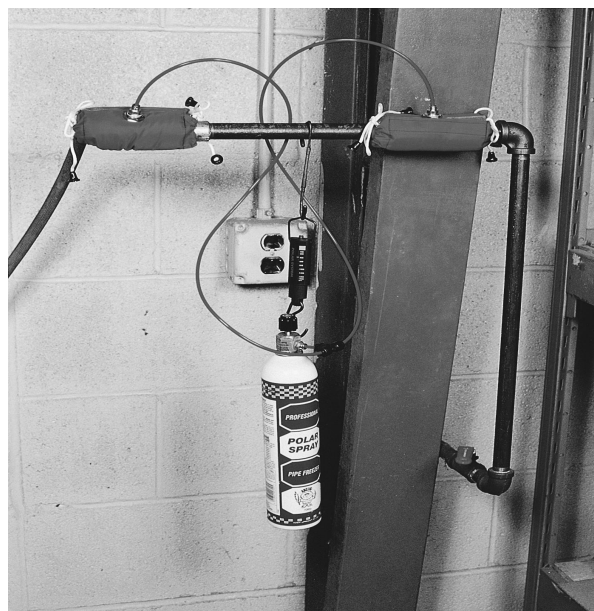
Follow the Freezing Procedure, but after a short period of injection liquid might start to seep out of the bottom of the jacket. Stop injecting for a moment. Allow the lower area to freeze up which helps to create a layer of ice and reduce the amount of liquid seepage. When at least the correct amount has been injected and you are satisfied the pipe is frozen start work on the pipe.

## FREEZING OTHER PIPEWORK

All our pipe freezing figures are based on Copper pipework. Polar System works equally as well on lead, iron, steel, plastic, etc. But we recommend that you use 25-30% more Polar Spray than stated for copper to obtain the same performance.

## FREEZING JACKETS

The freezing jackets are flexible and cover pipe diameters slightly larger or smaller than the quoted diameters which are based on Copper. They will fit plastic/iron/lead etc. pipework which varies from copper o/d. The jacket must fit snugly or this will affect performance. In marginal cases use a smaller jacket. Have a look at the quick reference chart overleaf showing the jacket size/colored Velcro.



## IMPORTANT SAFETY INFORMATION

1. We strongly recommend the use of compression or push-fit connections whenever possible.
2. Polar spray is heavier than air – always well ventilate work areas and surroundings especially in trench conditions, under floorboards, cupboards etc.
3. Polar spray is non-toxic however; the use of naked flames, smoking or heat close to the freezing jacket or the vapor could produce noxious fumes.
4. Switch off the pilot light when working on boilers.
5. Always well ventilate the immediate and surrounding areas continuously.
6. Do not breathe in the fumes, vapor or spray.
7. Avoid contact with skin or eyes. Polar spray will freeze skin. Use gloves and goggles for additional safety.
8. A full safety data sheet is available upon request.
9. If the valve or connectors leak while injecting the spray, check for dirt inside the fittings or frayed endings on the hoses. Trim tube at 90 degrees and re-insert.
10. We offer a free valve service-call for information.

JACKET	VELCRO	PIPE O/D
0	YELLOW	3/8 –1/2
1	GREEN	1/2 7/8
2	RED	1-1/16 1-3/8
3	WHITE	1-5/8
4	BLACK	2-1/8 2-3/8

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