

PLEASE READ THIS BEFORE INSTALLING!!!!

INSTALLATION AND OPERATIONAL GUIDELINES FOR FREEZE-X SYSTEMS

The Freeze-X recirculating system is designed to combine a low pressure water source and freeze protection for rigid pipe automatic watering systems. Satisfactory operation is dependent on proper installation and the use of the unit within its limitations. When properly installed within these guidelines, the system offers reasonable protection from freezups with minimal installation difficulties.

The design and introduction of the Freeze-X system was prompted by the limited availability of the immersible electric heat cable that was the standard protection method for many years. The heat cables while very effective, were at best difficult to install and becoming very expensive. The heat cable was never really designed exactly for this application, rather it was adapted to our use in water lines from its intended use as a residential radiant heat product. When this method of heating houses fell out of favor, the companies that manufactured the cable discontinued it and left us with no alternative product. Thus, the rethinking of how to best protect our rabbitry water lines and the development of the Freeze-X system.

HOW THE SYSTEM WORKS

The Freeze-X system was designed to provide a low pressure water source similar to the standard float tank/gravity flow systems commonly used by many. The recirculating pump was added to allow the water to continuously move through the system to prevent freezing, similar to letting a tap drip on a cold night to keep it from freezing. The length of line that can be used with each unit and the minimum temperature that it will continue to provide protection depend on several factors. Our experience has been limited to the few hundred units that we have sold over the last three years since the introduction of the units.

WHAT ARE THE LIMITATIONS OF THE SYSTEM?

The maximum length of line you can use seems to be directly related to the number of lines, turns, and restrictions that is encountered with each installation. We have seen up to two hundred feet of water line per unit work satisfactorily. However, in these longer installations, there are only two 100 ft. rows and the water travels down one row and the directly back through the other to the tank. In this case, there are only a few restrictions and turns and the water makes the trip through the system and back to the tank in a fairly short time. By contrast, we have seen shorter total length systems fail, but in these cases, there were multiple short turns with many elbows and ups and downs which slowed the flow of the water through the system. The slower the trip through the system, the more likely the water is to lose what heat it has and the more likely freezeup is to occur. Also, in every case where failure has occurred, a section of the water line was installed next to an exterior wall with no insulation or near a draft or outside air. Nothing will prevent a line from freezing if it is subject to low teen or single digit air that is blowing directly on the pipe.

For the reasons outlined here, we can offer no exact lengths of line or absolute outside temperatures that the system will service satisfactorily. Just remember that less restriction allows longer runs and always protect the lines from any direct drafts or direct contact with a freezing surface or wall. Most rabbitries are not heated, but they are almost always warmer inside than outside and offer protection from the wind. The Freeze-X system will not work on outside runs or if ran from one building to the next in temperatures much below 25 degrees. However, it could very well be 25 degrees below zero outside and the system work to perfection inside your building, it all depends on the exact circumstances. For these reasons, we can not guarantee the results of your installation, since we can not be with you to install it. However, if you have questions before you install it, feel free to call us and we will try to help you make sure it will work for your particular situation. If, after reading this, you think that it will not work for you, you may return it to us for credit or refund if unused. However, the systems work very well in most cases. A common sense approach to installation will yield satisfactory results every time.

HOW TO OPERATE THE SYSTEM AFTER INSTALLATION

While the operation of the system is pretty straight forward, there are a few things that might need clarification to allow the most efficient use of the Freeze-X system.

1. The unit is designed so that the pump does not need to be running if the temperature is above freezing. The pump will allow water to flow through it, unrestricted, when it is not running. If you install the tank as you would a normal float tank, at the highest point in your system, it can function as a normal float tank when the pump is off. This allows you to save power when the weather is warm, as the pump need only run in cold weather when you need freeze protection. The ideal way to control the pump is with a #THQ Thermocube thermostat. Plug the pump into the thermocube, which will automatically come on (and off) at about 38 degrees. Now you have a totally automatic system that will only run when necessary and will always be on when needed, even if you are not there to turn it on.

2. The heater that is supplied with the system has its own internal thermostat. It will not heat until the water temperature in the tank falls below 38 degrees. It also has a built in thermal overload feature that will shut it off should it get too hot, as might be possible should the tank run out of water. If the tank does run out of water for some reason, the pump will continue to run, but this will not harm the pump. You can plug the heater into its own outlet or into the thermocube along with the pump. If plugged into the thermocube, it will only have power when the thermocube is on and the pump is running.

3. Remember that the water supply line that you will connect to the tank float valve will NOT be protected from freezing by the system itself. You will need to wrap the high pressure incoming water lines with external heat tape or have some other heat source (heat lamps, etc.) to keep these lines from freezing.

4. Some people use the Freeze-X tank as their only source of water (not connected to live water via the float). If you do this and it runs low on water, the pump can no longer move water through the lines and THEY WILL FREEZE!! We do not recommend installing the system this way unless you are a very small rabbitry and can be sure that the four gallons or so of water that the tank will hold will be sufficient to keep the water circulating between fillings.

5. It is a good idea to always have a drain outlet that will allow you to drain your entire system in the event of a power failure. If the electricity goes off, all bets are off and the system will cease to function...which means it will freeze pretty quickly if it is really cold. If you can drain the system quickly in this event, you can save the system.

6. When the temperature falls into the teens and below, you will find that some of your drinking valves will freeze at the tips, even though the main line is clear and unfrozen. This

happens because there is no circulation within the valve itself. This would occur even when we used heat cable, especially with plastic pipe and pipe saddles as they are good insulators and won't let much heat conduct down to the valve. This is not a real problem for most animals, as they will tend to lick the valve and their breath and the warmth of their tongue usually frees the valve. However, some won't be that persistent and you will find it necessary to free the valve for them. The easiest way is with a disposable lighter, one short flick of the bic and the valve is flowing. Watch your animals feed intake on the coldest days and check the valve at the first sign of one going off feed. This is a sure sign that they are out of water and that you should check the valve.

FINALLY!!!!!!!!!!!!!!!!!!!!!!

If you have read this far, you should have no problems with your new Freeze-X system....it is those that won't read instructions that usually have the problems! But, even in the best installations and under the best circumstances, problems do arise. If you encounter anything in installing your system that you would like assistance with, please feel free to call our office for help. Our toll free number is 1-800-798-0150. Good luck, may you have only warm winters!