

Ice-Slicer®

Third Rail Anti-Icer System



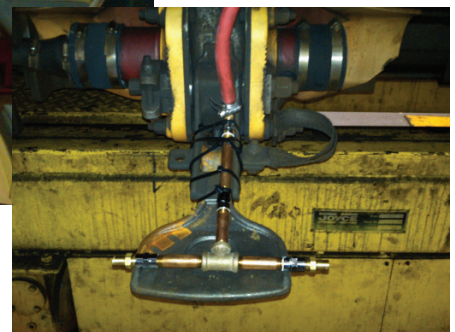
A Custom Delivery Application System for Third Rail Anti-Icing

Ice-Slicer spray systems apply Zero Gravity Third Rail Anti-Icer automatically to either third rail side of your trains to keep the surfaces free of ice. Prevent ice and power loss and keep your trains operating in the worst of winter weather.

Ice-Slicer utilizes Third Rail Anti-Icer, which should start being applied when predictions indicate freezing temperatures and prior to a severe storm event. Ongoing applications during a storm event will maintain ice-free rails and uninterrupted track operations.

Anti-icing provides these benefits:

- Keeping the mass transit system's time schedule accurate
- Maintaining maximum safety for passengers



Control Panel

- Steel-cased housing with lights to indicate when anti-icing agent is being applied.
- Power supply modules to be indicated by customer (typically 36 volt DC or 110 volt AC).
- Solenoids to operate line of flow. Cab-side or non cab-side directed by proximity switches from both sides of the vehicle, 36 volt DC current is reduced to 12 volt DC by voltage converters to operate pump and solenoids.
- Self-contained units (50 gallon or smaller) are mounted on four wheels for easy maneuverability. Larger units are designed on an individual basis.

Pump

- OBERDORFER™ close coupled bronze rotary gear pump, positive displacement, maximum delivery rate of 4 gpm.
- Stainless steel shaft. Buna lip seals. Run dry sensor. Relief valve with bypass to suction side of pump.
- Long life design to be used with Zero Gravity Third Rail Anti-Icer/Deicer. Operating pressure from 40 to 80 psi.

Motor

- BALDOR™ TEFC (3/4 hp., water resistant), 11 amp @ 110 volt. Also in 12 volt DC/110 volt AC.

Storage Tank

- Dictated by customer's requirements and expected usage. Self-contained units can be up to 50-gallon plastic tanks. Larger tank requirements will be connected to the suction line of the pump storage tanks will be as small as 50-gallon size to as large as the customer's particular demands or space limitations.

**NOTE: 55-gallon drums are not usable with run-dry sensors All connections from storage tanks to pump suction line will be dry quick connect hose couplers. The distance from the storage tank to the pump should not exceed 20 feet with level flooded suction lines. Do not exceed 10 feet of suction line if lift is required.*

System and hoses

- System equipped with pressure regulators, control valves and electric solenoid valves for each discharge line.
- Hoses are GOODYEAR™ ORTAC cold weather. 1/2" suction hose, 3/8" assembly hose, 1/4" discharge hose.
- Entire system is non-corrosive, designed for long life and dependability.

Anti-icing vs. deicing:

Traditional deicers used for third rail applications are very fluid. The thin fluid runs off the rail and provides no residual protection. Additionally, once rails have frozen over, it requires 5 to 10 times more of this thin fluid to melt ice than it would if you used Zero Gravity Third Rail Anti-Icer Deicer. Using low viscosity deicers makes your de-icing practice ineffective and costly. Zero Gravity Third Rail and Ice-Slicer create a pro-active approach for your anti-icing procedures to conserve product, saving you time and money and preventing operational interruption.

Third Rail utilizes a NASA technology "Smart Fluid" referred to as Zero Gravity, a co-developed technology between NASA and Ames Research Center. Midwest has been licensed to utilize Zero Gravity in Third Rail Anti-Icer and is patent protected. When a small amount (a thin film of .01") of this non-corrosive substance is sprayed onto the third rail, its viscosity reverts to high "zero" shear or static viscosity which enables it to stay in place. This makes Zero Gravity Third Rail strongly resistant to rain, snow, ice, surface winds, and the adverse effects of gravity.