SNOW DIVISION

PRODUCT CATALOG

Mission: To provide profitability and productivity through quality and innovative products with superior service.

Definitions

Anti-Icing is a proactive approach to winter road maintenance by applying a chemical (e.g. salt brine, calcium chloride, magnesium chlorides, or other de-icers/freezing-point depressants) to a road surface prior to a storm to prevent snow/ice from bonding to the pavement. Anti-icing reduces the amount of time required to restore roads to clear, dry, and safe conditions. The time savings in restoring roads to safe conditions also dramatically reduces the cost of road maintenance. Liquid de-icers are generally applied at a rate of 30-60 gallons per lane mile.

Benefits of anti-icing:

- The road surface is never "lost" and bare pavement conditions are quickly returned, reducing the quantity of material & efforts required in de-icing
- Safer road conditions decrease accidents & traffic delays
- Salt residue remains on the road, ready to work when precipitation begins, so even if a storm is delayed, your products are effective
- Uses less salt, therefore minimizes environmental concerns & the cost of operation

De-Icing is a reactive process of melting accumulated snow/ice from road surfaces. This is generally completed with salt by lowering the freezing point of the snow/ice and providing temporary traction. It can take up to six times the resources to remove compacted snow and ice, making anti-icing the more cost efficient and effective option.

Pre-Wetting refers to the addition of liquid melting agents (often used in anti-icing) to salt to improve its melting capabilities at lower temperatures by lowering the freezing point and jump starting the melting process. Salt alone must turn into a liquid solution before it can effectively melt snow and ice; therefore, pre-wetting helps the otherwise dry material begin melting immediately. Research states that up to 40% of dry salt can scatter or bounce off the roadway. The addition of liquid helps decrease this effect and keep the salt mixture where it belongs, on the roadway. Generally, 5-15 gallons of liquid is added to each ton of dry material to be spread on the roadway. This is accomplished through the use of truck mounted systems or by overhead spraying as the truck is being loaded.

Pre-Treating refers to either pre-treating the roads through anti-icing or pre-treating the salt with a liquid (pre-wetting) to increase the melting characteristics.

Salt Brine is a 23.3%, by weight, mixture of tap water and rock salt. Salt brine is generally made using a brine manufacturing system. Salt brine can significantly lower the cost of operation and increase road conditions.

GVM Incorporated is a Pennsylvania-based manufacturer of agricultural application and snow equipment. We place a large emphasis on designing and building the most reliable, innovative, and versatile equipment on the market. Our ultimate goal is to provide end users with the best available products in a constantly changing marketplace. We continue our rich history with a commitment to be the industry's leader in innovation. Our relatively small size is a competitive advantage, and we stay close to the market to quickly adapt to customers' needs and changes in the industry.

Mark Anderson
President & Owner

We are a leader and innovator of de-icing and anti-icing equipment to allow for safer roads before, during, and after a snow/ice event. We service our customers and distributors with a passion for customer satisfaction like no one else in our industry.

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Anti-Icing Systems

Direct Application Systems

GVM's Direct Application Systems (DAS) are designed to spray anti-icing liquids directly onto road surfaces, and can also be used for dust control on unpaved surfaces. DAS units are available in a wide range of sizes to fit any fleet and any budget.

The system is mounted on a free standing carrier frame made of hot-dip galvanized steel designed to fit ATV's, tractors, and both large and small trucks.

Features:

- Add-on system to directly apply anti-icing or de-icing liquids
- Easy load & unload features
- Hook-lift system, skid-mounted system, or trailer system
- 1, 2, or 3 lane coverage spray bar
- On/off controller in cab
- Ground speed control options
- Hydraulic driven pump

Options & Sizes:

- 125-3400 gal. systems available
- Raven De-Icing Controls
- RoadWatch SS for Early Temperature Warning
- Micro-Trak RoadMaster Application Control
- Baffle ball system for liquid surge protection
- Accessories shown on pages 10-11

725 Gal. Skid-Mounted

1335 Gal. Skid Roll-Off

EZ Load 1800 Gal. Truck-Mounted

3100 Gal. Skid-Mounted

125 Gal. ATV-Mounted

500 Gal. Skid-Mounted

325 Gal. Pickup-Mounted

Blend & Fill Stations

Calcote Fill Systems

CFS Series Systems are designed to dispense liquid chlorides and other liquid pre-wet solutions into truck mounted tanks used to pre-wet de-icing materials. They also have the ability to unload, and return liquids held in the truck mounted tanks to the storage tank.

- Work light allows for safe & efficient operation
- Dispenses all common pre-wet liquids
- Constructed of materials & components proven to be durable in the harsh environment of winter road de-icing
- Full line of polyethylene storage tanks ranging from 300-20,000 gal.
- Series 1000 & 1500 systems include a timer for automatic shutoff

Portable Pump Transfer Station

GVM's portable pump transfer stations are built to meet your specific requirements for filling pre-wet or anti-icing systems.

GVM's portable pump transfer stations feature a molded polyethylene enclosure with a lockable lid, an electric motor driven pump, and hosing. Pump Transfer Stations can also be built with an optional gas engine with a two-inch suction and discharge. The system's polyethylene enclosure is large enough to store hosing when the pump station is not in use.

Pump Transfer Station

- 22 x 11 x 12 in. (L x W x H) enclosure
- Fill hose & unload hose: 15 ft of 1 in. chemical resistant rubber
- Poly fill nozzle with stainless steel spring & pin for easy tank filling
- Tank return assembly, attached to storage tank
- 1 in. poly bulkhead fitting
- 1 in. poly ball valve with quick couple connection
- 2 in. poly tank shutoff valve with male quick couple attached
- 15 ft of 1-¼ in. flexible PVC hose fitted with 2 in. female quick couple for tank connection
- 1-¼ in. poly hose barb for connecting to pump

EZ Blend Station

Accurately mixes up to three de-icing chemicals allowing users to quickly adapt to any weather event. Users can accurately reach any desired rate or effective temperature for their de-icing solutions using the EZ Blend System.

GVM's EZ Blend System also allows users to set a programmable batch size and volume. Additionally, the system features an automatic shut-off, for ease of operation.

As chemical input costs continue to increase, users will recognize savings of hundreds to thousands of dollars per truckload by mixing their own liquids with the EZ Blend.

How it Works. The unit is comprised of dependable Raven components. The Raven mixing tube generates over 100,000 Reynolds of mixing turbulence at only 100 GPM, guaranteeing that individual chemicals will be thoroughly blended before application to the road surface, eliminating the need for a separate mixing tank. The turbulence rating increases as the GPM rate increases. The unit also includes Raven flowmeters.

Red Lion Controller

- Programmable batch size
- Pre-cutoff setting to ensure accurate batch volume
- Connected to Raven flowmeters to ensure accurate readings of chosen materials to be blended

Raven Mixer

- Ensures accurate & even blending of liquid de-icing materials
- Eliminates the need for tank mixing; one tank for each chemical
- Enhances mixing turbulence through a honeycomb style grate within the blending tube
- 304 stainless steel

Raven Flowmeters

- Raven RFM 60P- 60 GPM
- Raven RFM 200- 200 GPM
- Raven Electric ball valves

Micro Pumps

- 1 hp, 60 Hz, 2 pole, 3500 RPM

Automated Batch Systems

EZ Brine Systems

GVM's automatic EZ Brine Systems are quick, easy, and accurate solution for manufacturing salt brine and custom chemical blends. Flexible enough to meet the needs of any organization, the EZ Brine can be used as a batch system to produce blends on an as-needed basis or as a continuous manufacturing system to ensure your blend is always available. In addition to salt brine, the EZ Brine can blend up to three different micro-ingredients allowing users to produce custom blends to work at various temperatures. Additives and micro-ingredients allow blends to work at lower temperatures and often for longer periods of time.

The programmable controller computer is simple to operate and helps to guide the user through the process. The system constantly monitors salinity and pump performance in addition to logging brine production data. Built in WiFi allows for easy remote monitoring and the built-in printer is an added convenience to quickly print logged data.

EZ Brine Premier

- Produces up to 6,000 gal. of brine per hour (depending on water source)
- Built in computer for easy programing, remote monitoring, and data logging
- Mix brine and up to 3 micro-ingredients, injected on a continuous basis, as programmed by the user
- Continuous or batch style production
- 304 SS mix tank, with skid-style base
- 96 in. wide top opening for easy loading
- Top-mounted SS spray bars for easy tank clean out
- 2 in. SS spray bars located on bottom of tank for rapid saturation and mixing of salt solutions
- All controls mounted in a watertight and corrosion resistant enclosure
- Scot 7.5 hp, 3500 rpm, all SS centrifugal pump
- EZ Brine Roll Off System is a self-contained unit that is installed in one platform.

EZ Brine Roll Off System

Tank Cleaning Process

Brine Manufacturing System

GVM's Brine Manufacturing ABS's convert dry rock salt into liquid for pre-wetting or anti-icing roadways. The use of salt brine lowers the freezing point of snow and ice and is a popular, cost effective solution for managing roadways using readily available materials, granular salt, and tap water.

- Produces up to 5000 gal. per hour (depending on water source)
- SS tank divider separates manufactured brine for pumping to storage tanks
- Hot-dip galvanized structural steel frame meets ASTM specification A-123 for corrosion protection
- 115 in. wide top opening
- Tank designed to be rolled over for easy clean-out
- Includes a digital refractometer to measure salinity of brine
- Vertical storage tanks available from 300-20,000 gal.

ABS-800 Brine System

Ideal for landscapers, small municipalities, and contractors, the portable ABS-800 is GVM's most economical system available.

- 800 gal. capacity tank
- 144 x 43 x 58 in. mix tank
- 2.5 yd^3 salt capacity
- Single speed pump, 110 GPM
- Includes a digital refractometer to measure salinity of brine

ABS-1500 Brine System

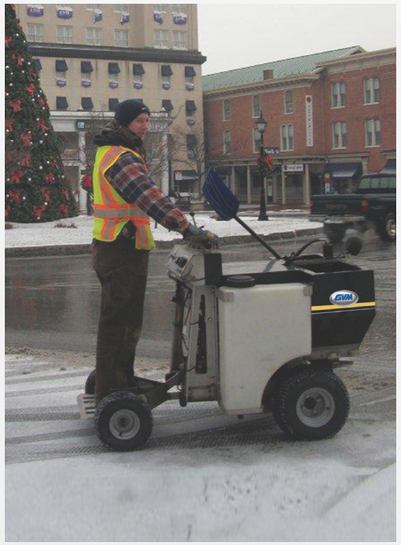
In addition to quick and easy brine production, the ABS-1500 allows users to pump the manufactured brine into a storage tank, which can then be used as a fill station. This fill station solution is simple and easy, not requiring the user to move or adjust any hoses. The ABS-1500 also allows users to load and unload truck-mounted pre-wet and anti-icing systems, returning material into the large storage tank so no material is ever wasted.

- 1500 gal. capacity tank
- 151 x 53 x 63 in. mix tank
- 5 yd^3 salt capacity
- Single speed pump, 110 GPM

EZ Rider

The Most Versatile Snow & Ice Removal System

The perfect solution for snow and ice control before, during, and after an event. The EZ Rider allows users to apply granulated salt and pre-wet salt at the spinner, and spray anti-icing liquids. This low clearance machine features easy maneuverability and a tight turning radius, and is ideal for universities and college campuses, parking garages, and as a tool for municipalities to clear sidewalks.



- 10.5 hp electric start gas engine
- Variable-speed hydrostatic drive
- 250 lb granular capacity, 4 ft spread width
- (2) 15 gal. poly tanks; 30 gal. capacity, 3 ft spray width
- SS, rust-resistant frame
- Hydraulic spinner & agitator
- 45 PSI 3.0 GPM pump
- LED work light
- Digital hour meter & tachometer

Anti-icing before event

Pre-Wet Systems

Pedestal Pre-Wet Systems

GVM's Pedestal Pre-Wet Systems are multi-functional liquid de-icer dispensing systems designed to pre-wet truckloads of solid de-icing materials. Each system is custom built to fit its specific operation and space.

Pedestal Pre-Wet Systems allow users to pre-wet multiple truckloads and trucks with just one dispensing system. Pedestal systems are also capable of loading and unloading truck-mounted pre-wet tanks, returning the liquid de-icer to bulk storage tanks, and draining tanks for end-of-season maintenance.

Systems Include:

- Adjustable height spray bar
- Centrifugal pump, rated flow up to 60 GPM
- Post-mounted control box
- Hot-dip galvanized steel to meet ASTM specification A123 on base, main body, & spray arm
- Dusk-to-dawn light
- Electric ball valve to prevent tank siphoning

Options:

- Fixed base system or free-standing systems
- Storage tank sizes: 300-20,000 gal.
- Tank Plumbing-to-Dispensing Package
- Remote control for ease of operation
- Linear actuator for mechanical spray arm adjustment
- APG ultrasonic digital gauge to view fill level

Telephone Pole-Mounted CP-50 Overhead Spray System

CP-50 Free-Standing Overhead Spray System

Fixed-Base CP-101 Overhead Spray System

Pump System

CP-50 Free-Standing Overhead Spray System

Truck Mounted Pre-Wet Systems

GVM's Truck Mounted Pre-Wet Systems are designed to pre-wet granular material directly at the spinner during application. Built on the heaviest duty frames in the industry users benefit from extended durability. Truck Mounted Pre-Wet Systems are ideal for Departments of Transportation, municipalities, townships, and landscapers. With a variety of sizes and mounting options, GVM's pre-wet systems can be customized to fit virtually any truck.

Features:

- Accurately & consistently dispenses all common pre-wet liquids
- Cab mounted controller
- Hot-dip galvanized steel carrier
- Weatherproof polyethylene pump housing
- Hydraulic or electric pump

Options & Sizes:

- Frame mounted: 35-65 gal.
- V-box mounted: 30-450 gal.
- Chassis mounted: 60-240 gal.
- Tailgate mounted: 30-135 gal.

Frame-Mounted System

Tailgate-Mounted System

Chassis-Mounted System

V-box Mounted System

Accessories

Baffle Ball System for Liquid Surge Protection

Save money by reducing fuel and maintenance costs.

- Reduce fluid movement for improved stability during transit
- Rust resistant, lightweight, & durable
- Low liquid displacement
- Small ball displaces 5 oz, weighs 0.25 lb
- Large ball displaces 14 oz, weighs 0.8 lb
- Recommend use quantity:
  - Large ball (14 in.) – 1 baffle ball per 10 gal. of total tank capacity
  - Small ball (7.5 in.) – 1 baffle ball per 2 gal. of total tank capacity

Figure 1

Figure 2

Figure 3

Standard GVM On/Off Switch Control Box

GVM Salt Box

- Ideal for outdoor storage
- Large capacity bins hold up to 300 lb or six 50 lb bags of sand, salt, or ice-melter
- Built-in forklift pockets allow bins to be moved without emptying them
- Durable UV-resistant recycled polyethylene construction with double-walled lid
- Easy assembled with two hinge pins

Tanks & Accessories

- White or Blue Vertical Storage Tanks are most frequently used for our Brine Making Systems and Pedestal Pre-Wet Systems. (Figure 1)
- Drainable Leg Tanks are designed primarily for use on fertilizer and chemical nurse trailers. (Figure 2)
- Horizontal Leg Tanks are used primarily for anti-icing applications within the snow industry, Norwesco's leg tanks feature molded-in legs that act as "baffles" to help to reduce sloshing (Figure 3).
- Containment Basin. Limit your liability by using a containment tank. Federal, state, and local agencies enforce stringent rules and regulations regarding spills, leaks, and overflows from primary containment tanks. Containment basins and tanks are impact and corrosion resistant and are molded as a one-piece, seamless unit (Figure 4).
- Polypropylene Bulkhead Fittings/EPDM or Viton Gaskets
- Steel Supports & Accessories for Leg Tanks
- High-Density Polyethylene Lids
- Tank Repair Kits

Figure 4

RoadWatch SS for Early Temperature Warning

The RoadWatch SS features the most technologically advanced early warning system of road and air temperatures in the industry. Their state-of-the-art system continuously monitors and displays air and road temperatures to give drivers advance notice of potential road freezing, before problems arise.

- Sensor heads can be replaced outside the vehicle without re-routing the cable in only 5 minutes
- Improved air sensor responds more quickly to temperature changes than previous versions
- Extension cables available in 4, 12, & 16 ft take the overall length to a usable 60 ft
- Flexible cabling for routing into tight spaces

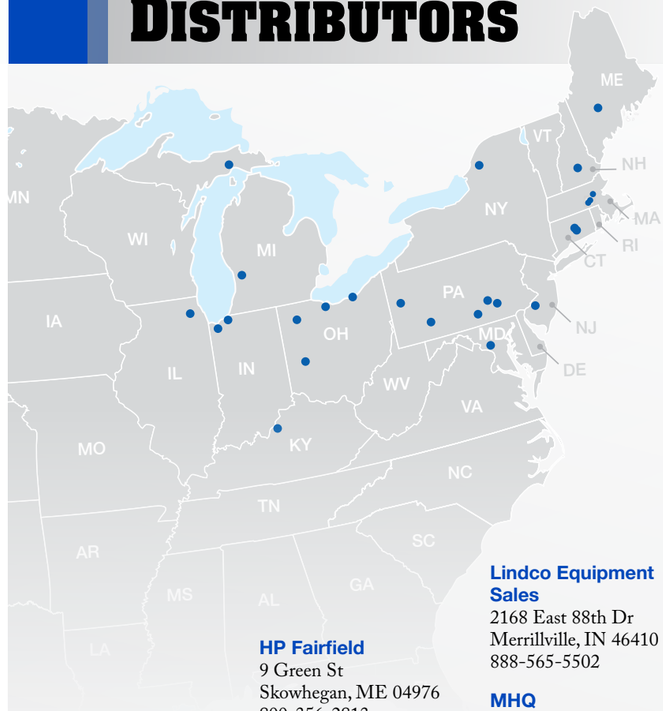
Micro-Trak RoadMaster Application Control

Simple, accurate application control. The RoadMaster is an automatic control system that can help you operate more cost-effectively by providing the information you need to maintain proper application rates of liquid de-icer and anti-icing chemicals.

The RoadMaster offers four operating modes for lane, agricultural, dust control, and turf applications. The RoadMaster provides a complete picture of critical spraying functions and an accurate record of work performed. Total gallons, feet and lane mile counters can be independently reset without affecting other stored totals.

- Push-button controls for on-the-go rate adjustment & selection of automatic or manual operation
- Out-of-range warning light, plus status indicators for up to 3 boom sections
- Heavy-duty rotary switch for quick function selections
- Heavy-duty, weather resistant console, & weatherproof cable connectors
- Precise rate control
- Compensates for ground speed & application width changes
- Zero speed shutoff in automatic mode
- Works with solenoid or 3-wire ball valves
- Vehicle ID settings for full documentation of work performed

Distributors



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