

It's not the weather...  
it's whether you're equipped.

MUNICIPAL PRODUCTS





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FORCE America offers a comprehensive total snow and ice removal solution to properly equip you for the winter maintenance season. From central hydraulic systems to integrated controls and liquid management solutions to AVL/GPS-based fleet management tools – FORCE America has you covered. Best of all, we work with you to customize a solution that meets your unique needs.

**Read on to learn more about our snow and ice offerings.**

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# Integrated Snow and Ice Solutions

A comprehensive look at our available integrated systems:



## Pre-Wet Application Systems

- Tailgate units up to 150 gallons
- Frame mount and behind the cab units
- Higher capacity means more time on the road
- High density polyethylene with UV protection
- Strength and durability needed for long-life against harsh salt exposure
- System flexibility
- Electric manual, electric closed loop, hydraulic closed loop and hydraulic series loop options



## Auger and Spinner Motors

- Industry proven spool valve design
- Smooth and efficient performance over the complete speed range of the motor
- Hydrodynamic bearings
- High overhung load capacity with infinite bearing life when ratings are not exceeded
- Optional electronic sensors
- Reliable feedback for closed loop spreader applications



## Fleet Management Solutions

PreCise® MRM, integrated AVL/GPS data collection, mapping and reporting systems. Sensor and remote in-cab displays for road and air temperatures.



## VT35 Valve Tank Assembly

- Total component protection
- Valve, filter, filler/breather, sensors, cables and fittings all under one easy to remove cover
- Tri-point tank mounting
- Prevents tank cracks and weld failures caused by truck frame chassis flex
- Gasket-less passive seal technology
- Prevent harmful salt spray while venting damaging moisture



“Our county’s fleet has been using FORCE America hydraulics and controllers since 2003. We continue to do business with FORCE America because of the quality of the equipment and superior service support. It is very apparent that the customer is always the number one consideration when dealing with FORCE America. We continue to use FORCE America products for the consistency in quality they bring to our fleet.” -D.G., Director, Fleet Management, County Highway Department Midwest, US



### Spreader Controls

From the most advanced, completely integrated electronic controls to the basic manual controls-FORCE America offers the widest selection.

- Simple manual, hydraulic or electronic controls
- Ground-speed based
- Micro-processor controller with event logging of material usage
- Full integration with AVL/GPS data logging and tracking



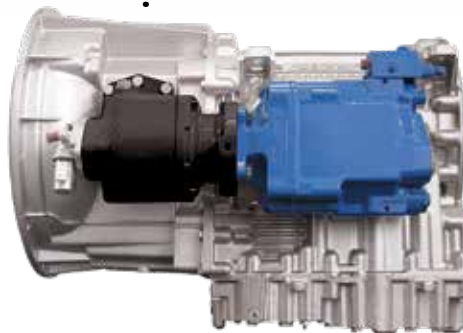
### High Pressure Filters

- Multi-layered microglass media
- Exceptional filtration performance  $\beta_{16} \geq 300$
- Severe Duty Applications
- High dirt holding capacity with high intrinsic stability for cyclical loads
- Pressures to 6000 PSI
- Handles high pressure and pressure spikes with an unmatched safety factor



### Return Filters

- Multi-layered microglass media
- Exceptional filtration performance  $\beta_{16} \geq 300$
- 5-micron microglass filtration
- Exceeds manufacturer recommended filtration requirements for extended fluid service intervals
- Element pressure rating to 232 PSI
- Handle high peak flows, like telescopic hoist without media failure



### Variable Piston Pumps

- Direct mount capable
- Mounts directly to most auxiliary transmissions including Allison MD3060
- Flows to 55 GPM
- Simultaneous function operation achieved with properly sized pump
- High response compensator
- Immediate pump response with input signal from precise movement and control

# Control Systems

## SSC6100 CAN Bus Spreader Control System

The 6100 control system is the industry-leading integrated CAN Bus joystick and spreader controller. Embedded within the 10" color LCD, this controller comes fully equipped with camera integration, antenna and PreCise MRM cellular and GPS technologies greatly reducing the footprint of components within the cab.



### Integrated Valve Module

- CAN Bus communication eliminates bulky wire harnesses

### CAN Bus Central Hub

- Provides high-level diagnostics and eliminates bulky harnessing.

### 6100 LCD Color Display



- 10" color LCD
- Up to three camera feeds
- Continuous display of spreader parameters and diagnostic information

### Patrol Commander Ultra Operator Interface

- Enhanced graphics capability and color-coded control knobs maximize operator user-friendliness
- Text-driven calibration instructions for easy calibration



## Controller Options for the SSC6100



### Patrol Commander® Ultra

The Patrol Commander Ultra Series Controller for medium and heavy duty plow trucks is a fully proportional control with integrated spreader control. Ergonomic design allows one-handed, finger-tip control of all spreader functions and up to nine hydraulic functions. Rigid construction ensures product quality for the life of the vehicle.

Customize your joystick controller with 3, 4 or 5 joystick configurations and choose from multiple joystick types. Our flexible design is sure to meet your specific system needs.

### CommandAll® Single Controller

The CommandAll Single is a high-quality, dual-axis hall-effect joystick with redundant outputs for guaranteed reliability. This rugged yet comfortable handle has six programmable push buttons that are able to be preset to the requirements of your fleet. A programmable interlock trigger allows for safe use of critical functions. Backlit switches are available for quick access to other special or auxiliary features.



## SSC5100ex Spreader Control

The 5100ex is a fully-integrated, all-in-one spreader control designed for heavy duty winter maintenance operations. Its compact, modern design offers intuitive navigation and comfort for a commanding solution with a wide range of control.

### Features

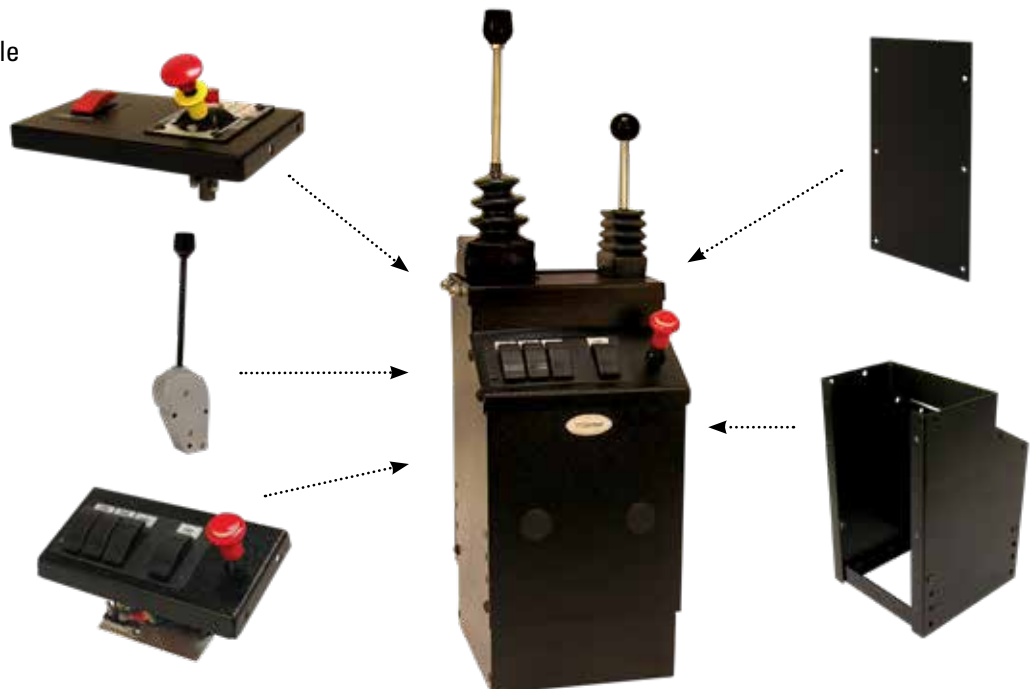
- Manual, open and closed loop controller capabilities
- Optional integrated control for the plow and hoist operation
- Ergonomic, compact design for comfortable operation
- Protective casing surround control knobs
- Bright, bold color LCD touchscreen
- Backlit rocker switches for easy viewing at all times
- Interlock for use of critical functions
- Fully adjustable mounting options
- Built-in USB port for data retrieval and firmware upgrades



## InControl® - Air & Cable Controls and Towers

Modular, in-cab control system that is ideal for a variety of truck and machine control applications.

- Modular design allows you to easily create a custom control package for your needs
- Variety of tower sizes ensure a good fit to most applications
- Available with: push-pull cable controls, pneumatic air controls, hydraulic remote controls or electric accessory controls
- Large selection of cover plates available
- Adjustable base height
- Compatible with the 6100



# Valve Tank Assembly Series

The Valve Tank (VT) Series place all components within a protective enclosure. Components under the cover include valve, tank, filter, breather, sensors, electrical connections and hose end fittings. Our valve tank enclosures provide increased protection from harsh elements, improving the durability and life of the components. Available in the following three sizes to fit your fleet: 35, 25 and 15 gallon reservoir capacities.



VT35 cover available in stainless steel or poly.

- Removable stainless steel cover (VT35 available in poly)
- Easy maintenance and maximum component protection
- Three-point mounting
- Prevents tank failures caused by frame flex
- Swing out valve mounting
- Easy access for maintenance
- High capacity 5 micron filtration

- Exceeds most requirements with extended fluid life
- Externally mounted sight gage
- Simple fluid level monitoring
- High capacity suction strainer
- Protects pump
- Passive seal



## Power Float Control Valve

The Power Float Control Valve reduces the heavy weight of today's snow plows by providing continuous, controlled hydraulic pressure to the raise side of the lift cylinder. Hydraulic float reduces blade wear by 66%, extending life\*. Cost of valve can be recovered in just one snow event.

\*Based on municipal customers in the midwest who had three snow events in December 2009. The plow truck with the FORCE America Power Float Control Valve went through only one set of cutting edges. The remainder of the fleet went through three sets of cutting edges, at \$500 per set.



## SCE Spin-A-Veyer®

Compact and economical electro-proportional control valve designed for spreader applications. Compatible with most electronic spreader controllers and provides independent control of auger, spinner, and output flows. Pressures to 3,500 PSI.

- Accommodates most popular spreaders, including tailgate and V-box
- Unparalleled meter-ability
- Option to serve as main relief in central hydraulic system
- Adaptable to gear pump or load-sensing systems
- Accommodates open or closed center circuits



VariTech Industries offers a complete liquid management solution, producing products for anti-icing, de-icing and pre-wetting. Solutions include automated production and blending systems, storage tanks, transfer systems, and application equipment.

### SB600 Salt Brine Production System

- Produces up to 3,600 gallons per hour
- Up-flow design for consistent salinity
  - Full-Range salinity adjustment
- Double wall construction ensures containment
  - Overflow protection





### Brine Boss®

- Automated process and salinity control system
- Color, touch control screen
- Usage data tracking with security
- Temperature compensated production



### Blend Boss™

- Ability to make "hot mix" blends using nearly any de-icing chemical
- On-the-fly adjustability
- Password protection
- Closed loop control
- storage tank recirculation


## Tank Tamers®

Tank Tamers are used in large mobile liquid tanks increasing the stability of the vehicle by reducing sloshing associated with vehicle movement. Tank Tamers are easy to assemble and can be added to any liquid tank with a 16" or larger man-way.



Example tank shown with Tank Tamers system.



## Anti-Icing Application System

The Anti-Icing Application System is designed to slide in to medium and heavy duty dump trucks. Tank capacities ranging from 735-3,400 gallons. Galvanized steel frame and glass filled fittings for years of dependable service.

## Critical Spot Sprayer

A completely self-contained, slide in spray unit is designed for light- medium truck applications.

Features stainless steel spray bars and extra high strength UV stabilized tanks. Powered by a 5.5 hp Honda engine. Optional summertime herbicide spray bar.



PreCise® MRM provides GPS-based fleet management for winter maintenance fleets. As part of the FORCE America family, PreCise MRM is deeply integrated with our control systems. Accurate material usage reporting, controller error alerts, and vehicle accessory details are available as part of a total system approach. PreCise MRM goes beyond AVL/GPS to provide a complete fleet management solution.

## Accurate AVL/GPS Data

- Location, heading, speed, time and materials
- Equipment work and material usage
- Secure access to information and reports from any web browser

## Manage by Exception

- Monitor speed, idle, off-hours, maintenance and other exceptions
- Proactive email alerts when exceptions occur

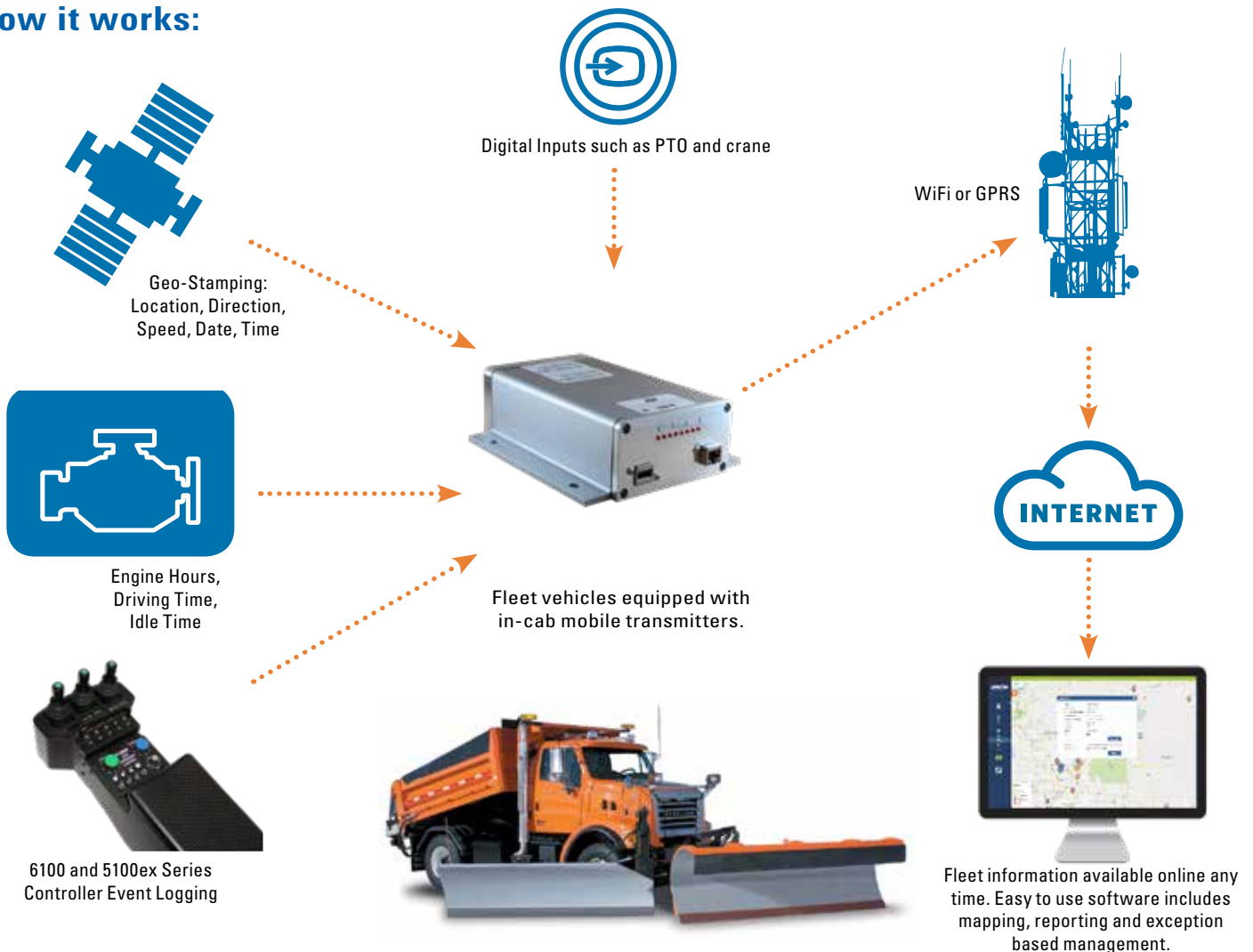
## Comprehensive Road and GPS Based Mapping

- View entire fleet location
- Improved storm management with accurate Route Completion reports
- Gather material usage information
- Odometer, engine hours, and six discrete digital inputs
- View summary reports and graphs

## Completely Configurable, Over-the-Air

- Change settings to optimize data generated and granularity

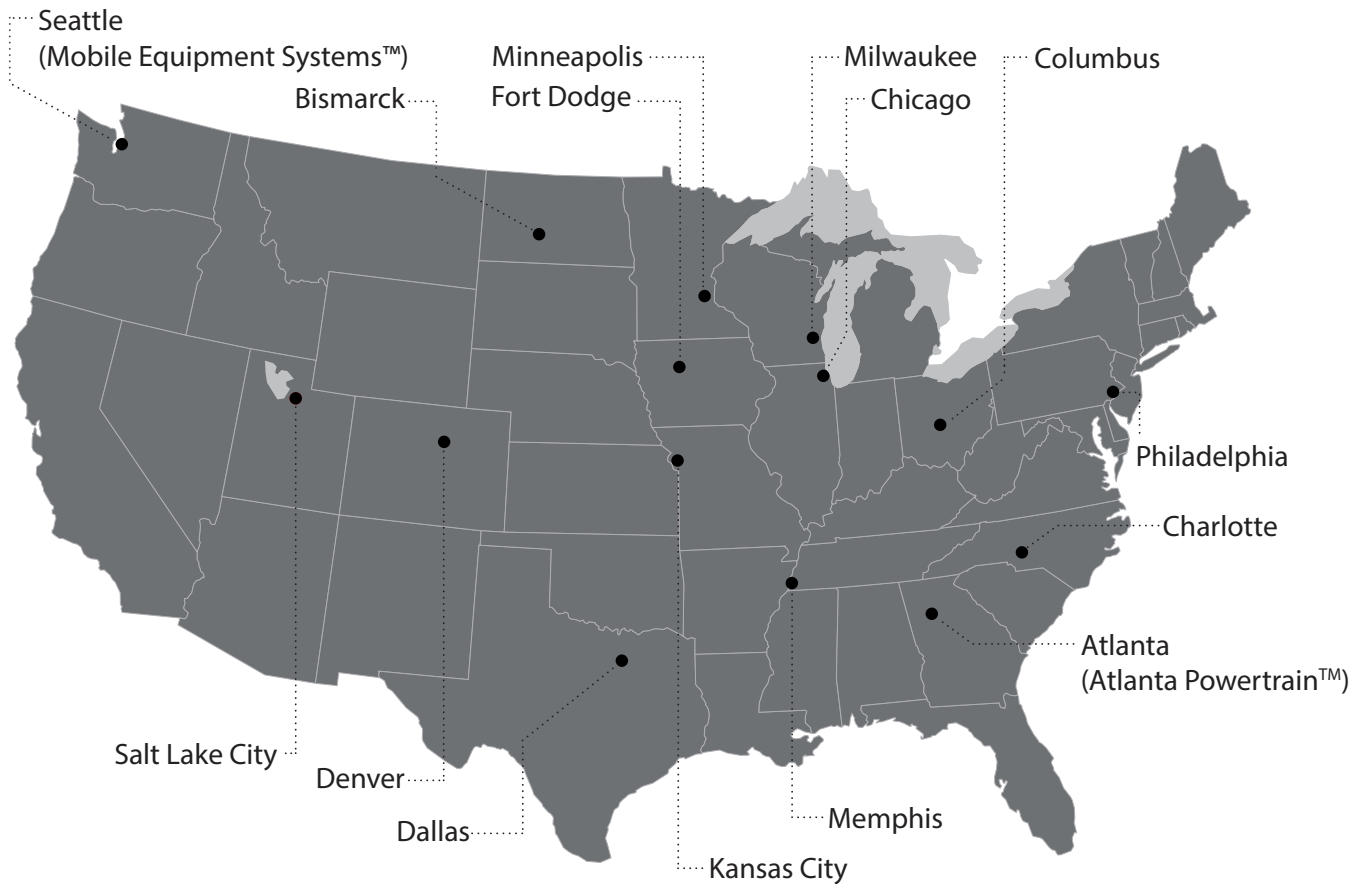
## How it works:



# Equip your fleet with FORCE America

FORCE America offers a comprehensive total snow and ice removal solution. At FORCE America, we partner with you to customize a solution that meets your unique needs. Our experience and capabilities gives you one resource to weather even the biggest storms.

For more information on our winter maintenance solutions, contact a sales and service center near you or call 888-99FORCE.



**1-888-99-FORCE**

501 East Cliff Road Burnsville, Minnesota 55337 [www.forceamerica.com](http://www.forceamerica.com)

## Sales and Service Centers

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Part Number: FA940  
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Bismarck, ND	800-624-7568	Denver, CO	888-833-7711	Minneapolis, MN	800-328-2732
Charlotte, NC	800-788-8598	Fort Dodge, IA	800-362-2994	Philadelphia, PA	800-492-6621
Chicago, IL	800-433-5765	Kansas City, MO	800-383-4724	Salt Lake City, UT	877-230-0505
Columbus, OH	888-449-0356	Memphis, TN	888-845-5876		
Dallas, TX	800-893-7225	Milwaukee, WI	800-722-5844		
		Atlanta, GA (Atlanta Powertrain™)	888-293-2325	<a href="http://atlantapowertrain.com">atlantapowertrain.com</a>	
		Seattle, WA (Mobile Equipment Systems™)	800-354-9028	<a href="http://mobileequip.com">mobileequip.com</a>	