



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:



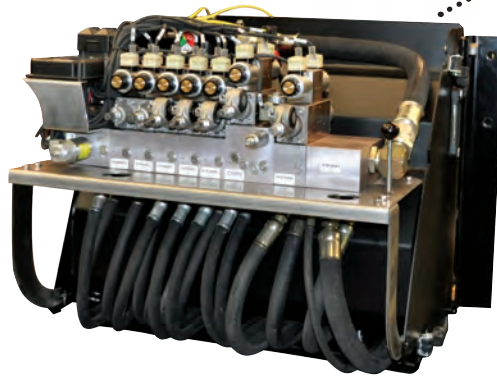
Pre-Wet Application Systems

- 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



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



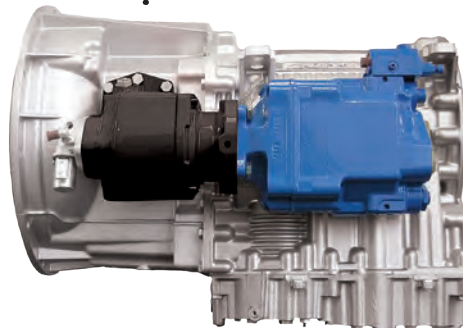
High Pressure Filters

- 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 features a vivid 7" color LCD and true CAN bus connectivity. With the use of ISOBUS connectivity, the single connector system supplies CAN signals and 60A of 12VDC power to equipped spreader bodies and trailer systems. The easy-to-use system can be customized for use today and expanded to accompany new developments in snow and ice fighting techniques down the road.



Integrated Valve Module

- CAN Bus communication eliminates bulky wire harnesses

CAN Bus Central Processing Module

- USB capability for downloading calibration settings and material totals



6100 LCD Color Display

- Continuous display of spreader parameters and diagnostic information
- 7" LCD can be mounted anywhere in the cab

Patrol Commander Ultra Operator Interface

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



Available Options for the SSC6100



Patrol Commander® Ultra Series Controller

Designed for medium to heavy duty plow trucks, the Ultra is a fully proportional control with an integrated spreader control. Design allows for finger-tip control of hydraulic functions and a comfortable silicone interface for adjusting spread rates.

The 6100 LCD 7" color display is easy to read, with large fonts and adjustable brightness. All spreader control information is available at a quick glance. Compatible with: Patrol Commander Ultra, Spartan SPJC, and stand-alone controls.

Spartan SPJC® CommandAll® Controller

Fully proportional single stick control with an integrated spreader control. Allows one-handed, finger-tip control of all spreader and hydraulic functions.

Mini-joysticks offer superior control with "push-a-button" design and simultaneous proportional control of today's most popular functions.

SSC5100ex Spreader Control

The power behind FORCE America’s 5100ex spreader control is designed specifically for the demands placed on Public Works departments and other heavy duty winter maintenance operations. The 5100ex provides a commanding solution for winter maintenance professionals to fight snow and ice with precision and simplicity. Best of all, it delivers enormous functionality within a compact, modern design.

Features

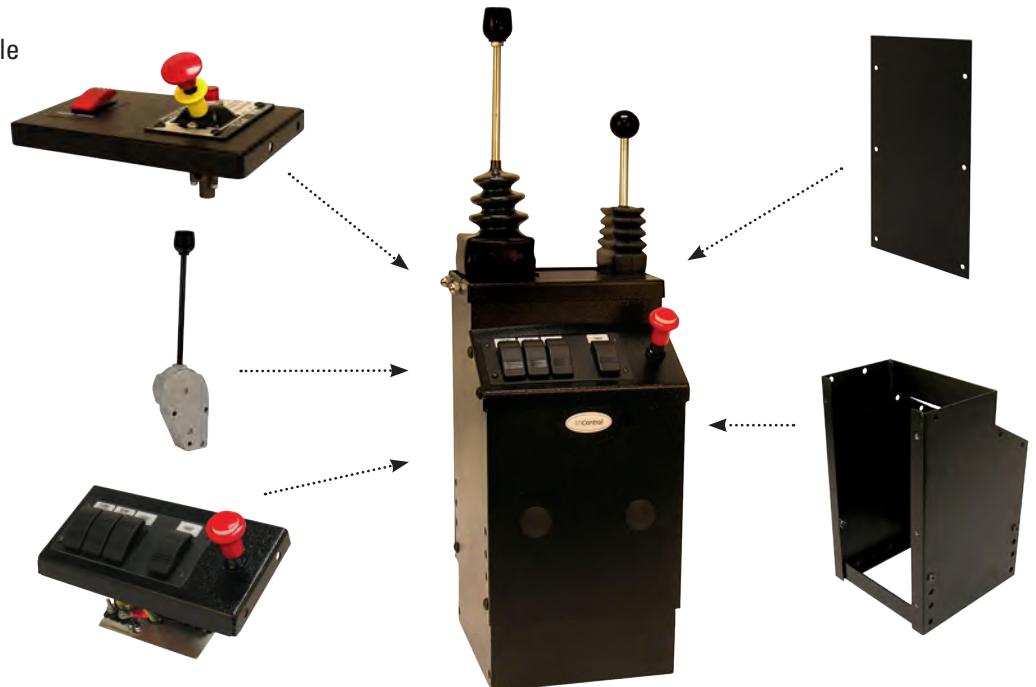
- Manual, open and closed loop controller capabilities
- Optional integrated control for the plow and hoist operation
- Ergonomic, compact design
- Protective casing surround control knobs
- Bright, bold color LCD touchscreen
- Backlit rocker switches
- Interlock for use of critical functions
- Fully 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

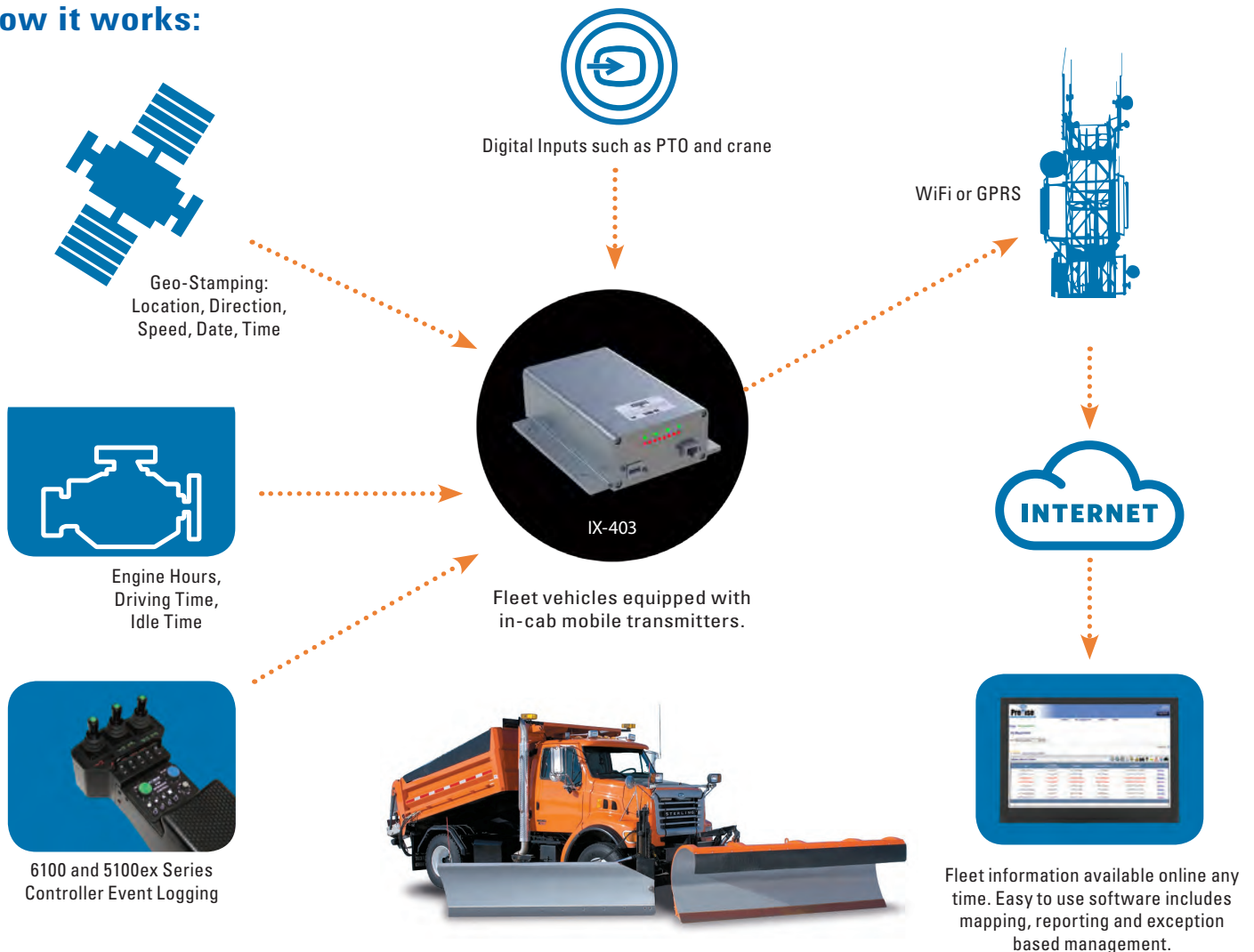
Comprehensive Road and GPS Based Mapping

- 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

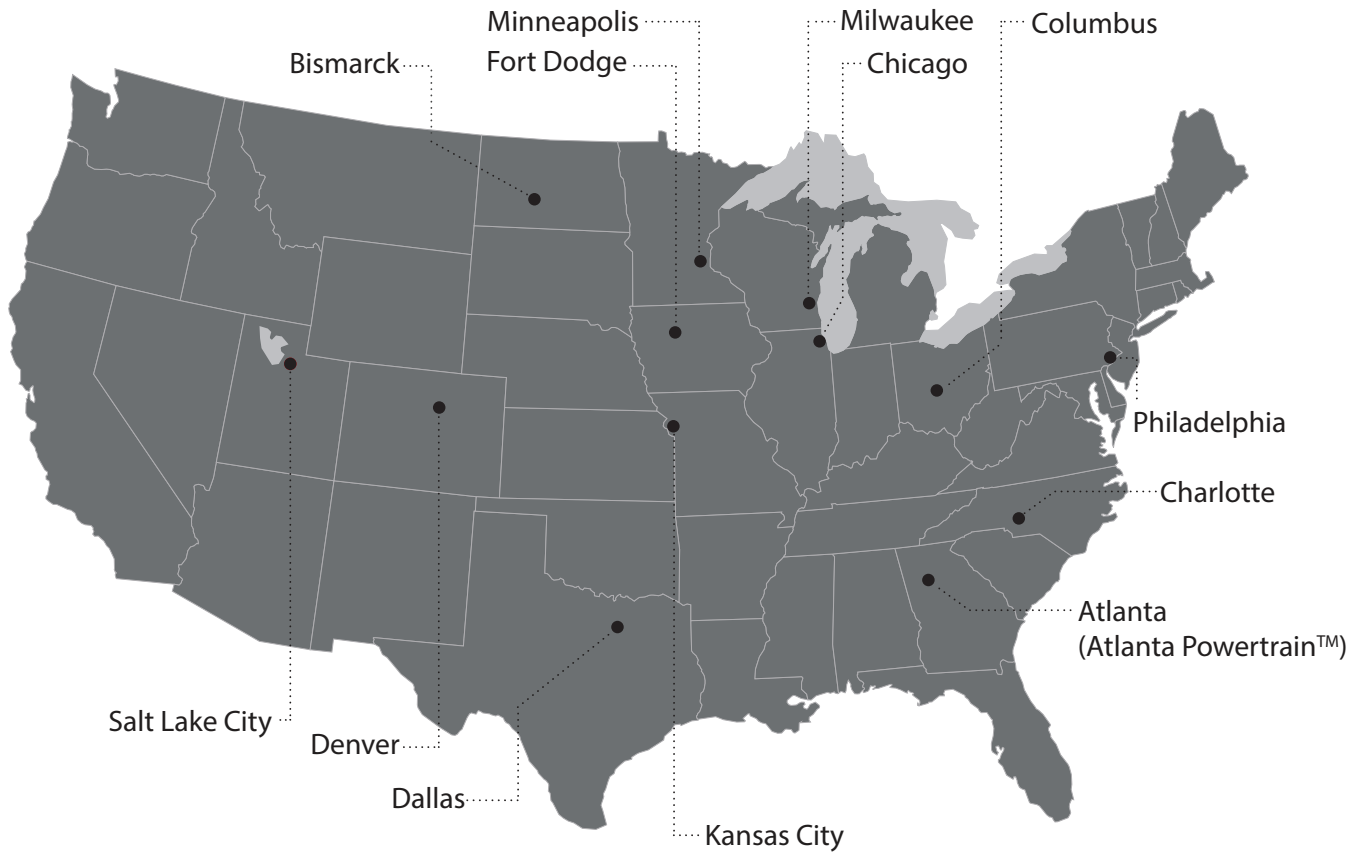
How it works:



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

Sales and Service Centers

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Bismarck, ND	800-624-7568	Dallas, TX	800-893-7225	Milwaukee, WI	800-722-5844
Charlotte, NC	800-788-8598	Denver, CO	888-833-7711	Minneapolis, MN	800-328-2732
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