DRIVING FORCE

MUNICIPAL
Snow and Ice Catalogue
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ABOUT DRIVE PRODUCTS

“A business built on a platform of proven products and a wealth of knowledge will earn a customer following.”

- Greg Edmonds, Founder and CEO

The Beginning

Visualizing a need for industry specialists, Greg Edmonds established Drive Products in 1983 to supply products and systems to the Truck Mounted Equipment industry in Ontario. The foundation was set with a 3,000 square foot leased building in Toronto, three employees, and $100,000 starting inventory.

Drive Products’ success continued in the form of exponential growth, established by partners with a wealth of knowledge and experience who shared a common vision. Operations were expanded through the addition of branch locations and the integration of driveline and cable manufacturing.

The company also strengthened its market position by securing an exclusive distribution arrangement with Muncie Power Products and by acquiring additional complimentary product lines.

In July, 2001, Drive Products became the exclusive Canadian dealer of Force America snow and ice control products. Force America’s similar vision and complimentary products allowed Drive Products to bring greater choice and superior systems to the Canadian snow and ice control market.

Drive Products Today

Today Drive Products employs over 200 people and enjoys a significant share of the Canadian market. The recently constructed Corporate Office in Mississauga oversees branch operations in Vancouver, Calgary, Edmonton, Montreal and Halifax.

Drive Products provides a complete source of truck mounted equipment products and is Canada’s leading systems integrator. In addition, Drive Products also specializes in systems engineering and installation and repair services.

Upholding its reputation for continual improvement, Drive Products is registered to the international quality management standard of ISO 9001:2008. All of Drive Products’ seven branches nationwide are certified to this standard.

Drive Products Tomorrow

Looking towards the future, Drive Products will continue to deliver superior products and services that exceed our customers’ expectations. With a continuous focus on improvement, the introduction of new product lines and additional Canadian locations, Drive Products will continue to be the industry leader.

“We will build on the strength of our greatest resource, our people, and will aggressively promote employee training and recruiting of industry experts. We will continue to build on the success achieved through supplier and customer intimacy.”

- Greg Edmonds, Founder and CEO
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HYDRAULIC PUMPS

FASD 34/45 Piston Pumps

Features:

- Crank driven load sense piston pump
- Extra large capacity
- High pressure capability
- "High Flow" side ported rear cover: 34-45 GPM (at 1800 RPM)
  2400 RPM maximum speed
- Severe Duty outboard seal assembly
- Special hardening process on all wear surfaces
- Steel piston shoes; Special hardening process on all wear surfaces
- O-ring housing seals, no gaskets!
- 80 dBA noise level at full flow and pressure
- Polymerous swashblock and cylinder bearings
- Shafts available: 1-1/4" keyed or 1-1/4" 14 tooth spline
- Dimensions: 14" length x 11" width
- Displacements: 4.67 cu. in. – 6.00 cu. in.
- Maximum pressures: 3000 psi – 4000 psi
- Mounting bracket available
HYDRAULIC PUMPS

TXV Piston Pump

Features:

- Extremely compact
- Continuous pressures to 4800 psi
- Low noise
- 11 piston design
- High response compensator
- Dual seal with external vent standard
- 7 pump controllers available
- Application flexibility
- Displacement: 2.44 cu.in. – 7.32 cu.in.
- Dimensions: 10" length x 5" width
- Variable PTO mounts available
- Shafts available:
  - SAE "C" 1-1/4" x 14 Tooth Spline
  - SAE "BB" 1" x ¼" Keyed
  - SAE "C" 1-1/4" x 5/16" Keyed
  - SAE "BB" 1" x 15 Tooth Spline
  - DIN – 8 x 32 x 35 Spline
HYDRAULIC PUMPS

X Series Pumps

Features:

- Extremely compact
- Continuous pressures to 5,000 psi
- Low noise
- 7 piston design
- Dual seal with external vent standard
- Application flexibility
- Extra large flow capacity
- Unsurpassed power to weight ratio
- Displacement: 1.95 cu. in. – 6.71 cu. in.
- Shaft: DIN 14 – 8 x 32 x 35 spline
- Dimensions: 13” length x 5” width
- Variable mounts available
HYDRAULIC PUMPS

R Series Piston Pump

Features:
- Four standard sizes – 18-26 gpm (70-100 lpm)
- Pressures to 5075 psi (350 bar) continuous duty
- Speeds to 1600 rpm
- Bi-rotational operation
- Double shaft seals
- DIN 5462 4-bolt shaft and flange
- BSPP straight thread ports
- Proven European design
- Full one year warranty
HYDRAULIC PUMPS

R Series Tandem Piston Pump

Features:

- Two standard sizes – 10-13 gpm (41-51 lpm)
- Pressures to 4350 psi (300 bar) continuous duty
- Speeds to 1600 rpm
- Bi-rotational operation
- Double shaft seals
- DIN 5462 4-bolt shaft and flange
- BSPP straight thread ports
- Proven European design
- Full one year warranty
HYDRAULIC PUMPS

Q Series Piston Pump

Features:
- Five standard sizes – 5-15 gpm (19-60 lpm)
- Pressures to 5075 psi (350 bar) continuous duty
- Speeds to 1800 rpm
- Bi-rotational operation
- Double shaft seals
- Air bleed screw standard
- DIN 5462 4-bolt shaft and flange
- BSPP straight thread ports
- Proven European design
- Full one year warranty
HYDRAULIC PUMPS

P Series Piston Pump

Features:

- Four standard sizes – 3-9 gpm (12-33 lpm)
- Pressures to 5075 psi (350 bar) continuous duty
- Speeds to 2400 rpm
- Bi-rotational operation
- Double shaft seals
- Air bleed screw standard
- DIN 5462 4-bolt shaft and flange
- BSPP straight thread ports
- Proven European design
- Full one year warranty
HYDRAULIC PUMPS

T Series Piston Pump

Features:

- Three standard sizes – 11-21 gpm (43-80 lpm)
- Pressures to 5075 psi (350 bar) continuous duty
- Speeds to 1800 rpm
- Double shaft seals
- BSPP straight thread ports
- DIN 5462 4-bolt shaft and flange
- Proven European design
- Full one year warranty
HYDRAULIC PUMPS

K Series Pump Single and Tandem Models

Features:
- Seven pump sizes – 4 - 17 gpm @ 1000 rpm (15 - 64 lpm @ 1000 rpm)
- Bi-rotational gear pump/motor
- High grade cast iron
- Versatile 4-port design (STO)
- High speeds – from 600-3600 rpm
- Pressures – up to 3000 psi (207 bar)
- Options:
  → Four different shaft types
  → Four different mounting flanges
HYDRAULIC PUMPS

H/K Series Clutch Pump

Features:

- 6 pump sizes – 3 - 13 gpm @ 1000 rpm (11 – 49 lpm)
- 3 clutch styles and types – 32 and 45 HP (24 and 43 KW) and 70 HP (52 KW)
- Versatile port design
- Speeds up to 4000 rpm and pressures up to 3500 psi (241 bar)
- Pump pre-assembled with the clutch
- High performance
- Dash mounted rocker switch
- Vehicle bracket kit available
HYDRAULIC PUMPS

L Series Pump Single and Tandem Models

Features:
- Seven pump sizes – 14 - 30 gpm @ 1000 rpm (53 - 114 lpm @ 1000 rpm)
- Bi-rotational pump/motor
- High grade cast iron
- Versatile 4 port design
- Speeds – from 600-3600 rpm
- Pressures – up to 3000 psi (207 bar)
- Options:
  - Five different shaft types
  - Two different mounting flanges
  - Built-in adjustable relief valve
HYDRAULIC PUMPS

2PL Tandem Dry Valve Gear Pump

Features:

- Maximum continuous pressure: 2335 psi
- Flows up to: 17.55 gpm (@1000 rpm) and 31.59 gpm (@1800 rpm)
- High volumetric efficiencies
- High mechanical efficiencies
- Pressure balanced systems
- Floating composite bushings
- High tensile alloy extruded bodies
- SAE and DIN mounts
- Optional dry valve capabilities
- Other displacements available
HYDRAULIC PUMPS

2PL Gear Pump

Features:
- Maximum continuous pressure: 2335 psi
- Flows up to: 17.55 gpm (@1000 rpm) and 31.59 gpm (@1800 rpm)
- High volumetric efficiencies
- High mechanical efficiencies
- Pressure balanced systems
- Floating composite bushings
- High tensile alloy extruded bodies
- SAE and DIN mounts
- Available in tandem configuration
- Optional dry valve capabilities
Features:

- 20 Amp Driver is a single channel Pulse Width Modulation (PWM) controller.
- control either a hydraulic valve or an electric motor
- contains an on/off digital output which can be used with a series open loop system
- User friendly design
- Eliminates the need for hydraulics in the cab
- Calibration from front panel
- Custom LED backlit display
- Extremely compact
- Solid-state micro controllers
- Standard wire harness
ELECTRONIC SPREADER CONTROLS

SSC2100 Spreader Control

Features:

- Ground-based automatic spreader control
- Auto/manual switch with indicator light
- Ten (10) material rate selections
- Detented control dials
- Standby with indicator light
- Ground-based blast
- LED back lighting
- Mechanical or electrical speedometer inputs
- Current compensated valve drive outputs
- Remote standby and blast inputs
ELECTRONIC SPREADER CONTROLS

SSC2150 Spreader Control

Features:

- Ground-based automatic spreader control
- Auto/manual switch with indicator light
- Ten (10) material rate selections
- Detented control dials
- Standby with indicator light
- Ground-based blast
- LED back lighting
- Mechanical or electrical speedometer inputs
- Current compensated valve drive outputs
- Remote standby and blast inputs
- Up to five (5) valve control or auxiliary switches
- Individual reset circuit breakers
- Custom LED backlit nomenclature
- Large selection of valve harnesses available
ELECTRONIC SPREADER CONTROLS

SSC2600 Spreader Control

Features:

- Ground-based automatic spreader control
- Auto/manual switch with indicator light
- Ten (10) material rate selections
- Detented control dials
- Standby with indicator light
- Ground-based blast
- LED back lighting
- Mechanical or electrical speedometer inputs
- Current compensated valve drive outputs
- Remote standby and blast inputs
- Additional valve drive for three function spreaders
- Separate auto/manual switch with indicator light
- Optional auxiliary blast
- Spreader warning indicators available
ELECTRONIC SPREADER CONTROLS

SSC5100 Spreader Control

Features:
- Powerful full featured microprocessor control
- Detented control dials
- LED back lighting
- Remote standby and blast
- Ground based blast mode momentary, timed or distance
- Large two line alphanumeric fluorescent display
- Five (5) current compensated valve drive outputs
- Operator selectable function controls
- Bi-directional RS232 for printer or data collection
- Three (3) types of material and ten (10) programmable spread rates
- Event logging
- Road temperature display

Optional Features:
- Compatible with Information Management Systems (GPS)
- Closed-loop spinner
- Closed-loop granular prewet
- Multi-lane dual boom direct liquid
- Material compensation based on road temperature
- Driver/supervisor access security key
ELECTRONIC SPREADER CONTROLS

Patrol Commander™ Ultra Series

Features:

• Fully proportional controls
  → Infinite speed control of up to nine operations simultaneously
• Swing-up arm
• Available in one, two and three joystick configurations
  → Flexibility to meet specific system needs
• Multiple joystick types available
• Backlit nomenclature
• Four programmable single-acting or dual-acting floats
  → Float available on any joystick axis with optional three second delay
• Joystick power-on detections
  → Helps prevent unintended system operation
• On-board visual diagnostics
  → Intuitive feedback for troubleshooting
ELECTRONIC SPREADER CONTROLS

Revolutionary Vision –
High Resolution Color LCD Display

Revolutionary Control –
Patrol Commander Ultra

Features:

- 7" diagonal Color TFT
- Wide-Screen display for operator comfort
- Wide-VGA Video for high speed/high resolution graphics
- Seamless integration of Weather, Mapping, Navigation and Decision Management Software
- Wide format LCD puts more information on the screen, while taking up less of the driver's windshield
- Remote-mountable with a multitude of RAM® mount options
- Robust communication for high speed/high resolution graphics
- Simultaneous display of key activities:
  - Granular rate set-point vs. actual
  - Pre-wet liquid set-point vs. actual
  - Road/air temperature
  - Current material name
  - Vehicle speed
  - Spread width
  - Gate setting
  - Future screen size options-capable
  - "Never lost" menu tree for calibration menus

- Dimensions:
  - Viewing Screen: 7.0" diagonal
  - Overall Dimensions: 4.8" H x 7.7" W x 1.3" D

- Two continuous rotation encoders for granular and spinner
- Two integrated push-buttons for blast and standby
- Multifunction menu navigation control:
  - 4-Way joystick (up, down, left, right)
  - Push-button help menu
  - Rotary encoder offers third material control for liquids or additional conveyor functions.
  - Four , 2-way soft-keys adapt to different functions depending on your equipment for shortcuts and/or additional function control
- Proven iButton connection for the fastest calibration file transfer in the industry
- Adjustable backlighting

An ISO 9001:2008 Registered Company

www.driveproducts.com
Revolutionary System Intelligence – CAN Bus Central Processing Module

- Revolutionary new speedometer pickup circuitry to adjust for the latest speedometer signals, eliminating external adapter modules and reducing system set up
- Every connector is custom-keyed and color-coded to assist in installation
- USB connectivity for file and data transfer
- J1939 connection to vehicle bus
- J1708 for road temperature sensors
- RS-232 connection for AVL communication
- Ethernet for administration and expansion
- Generous on-board memory for data storage
- Compact size
- Upgradeable and configurable-module is ready for the future

Revolutionary System Integration – CAN Bus Valve Control Module

- IP68 Rated sealed potted module and connectors seal out water and protect against vibration
- CAN Bus interface to controller reduces wiring through cab floor
- Feedback inputs for sensors
- Warning sensor inputs
- Proportional /non-proportional operation
- Immune to misconnections and short circuits
- Multiple PWM frequencies
- CAN Bus output connector to additional modules
- Valve current compensation
- On-board diagnostics which provide real-time status of sensors, outputs, and system communications

Features:
DATA RETRIEVAL UNIT

Datavator

Features:

- Event logs easily transfer to a PC for report generation
- Standard 16MB of on-board storage
- Stores calibration settings
- Upgrades controller firmware (operating system)
- Available storage of up to 98 truck transfers
- Automatic transfer of event data
- Connects easily to your personal computer
ELECTRONIC SPREADER CONTROLS

Spartan SPJC® CommandAll Controller

Features:

- Fully proportional controls
  - Infinite speed control of up to seven operations simultaneously
- Durable single-axis hall-effect main joystick
- Available in one, two and three mini-joystick configurations
  - Flexibility to meet specific system needs
- LED backlit nomenclature
- Programmable single-acting or dual-acting floats
  - Float available on any joystick axis with optional three second delay
- Integrated dash-key disconnect
  - Completely disconnect system from battery when key switch is off
- Joystick power-on detections
  - Helps prevent unintended system operation
- On-board visual diagnostics
  - Intuitive feedback for operation and troubleshooting
- Industry-leading safety
  - Integrated ESTOP function shuts down joystick functions
  - Built-in deadman trigger prevents unintended operation
AIR CONTROLS

Features:

- 4-way compensating air valve for remotely controlling the metering action of pneumatic shift cylinders
- Compact size allows the valve to be multi stacked with common inlet and exhaust manifold ports, and with bolts of one standard length
- Available with single detent, double detent, and lock in neutral handles
- Top handle knob clearly shows functions and control instructions
- Dual axis control with electric switch
- Simultaneous control
CABLE CONTROLS

Remote Cable Operated Valve Control

Features:

- Control head is in easy reach of the operator
- Noise, heat, and inconvenience of high pressure hydraulic lines are removed from the cab area
- Economical installation
- Allows greater flexibility when planning valve placement
- Good feathering characteristics
- Push-pull cables available in any length or configuration
HYDRAULIC VALVES

VT15 Valve/Tank Assembly

Features:

- Gasketless passive seal design
- Maximum operating pressure of 3500 psi
- Flows up to 30 gpm
- Actuated by electric, cable or air
- Removable rubber latched cover
- Tri-point tank mounting
- Large 15 gallon integral reservoir
- Swing out valve mounting plate
- High capacity 5 micron microglass filtration

- Multiple valve configurations available (Add-A-Stack and Add-A-Fold)
- Stackable Spin-A-Vey™ valve selection
- Integral lower hose guard
- Externally mounted fluid level/temperature indicator
- Removable inlet strainer for easy service
- Optional oil level and temperature sending unit
- Up to 8 valve sections
- Dimensions: 25.5" length x 23.5" width x 20" height
HYDRAULIC VALVES

VT35 Valve/Tank Assembly

Features:

- Gasketless passive seal design
- Tri-point tank mounting
- Large 35 gallon integral reservoir
- Available in 40 and 45 gpm pressure flows
- Maximum operating pressures: 3500 and 4000 psi
- High capacity 5 micron microglass filtration
- Stepped tank design
- Swing out valve mounting plate
- Integral rear exiting hose guard

- Externally mounted fluid level/temperature indicator
- Locking filler/breather
- Removable inlet strainer for easy service
- Optional oil level and temperature sending unit
- Up to 10 valve sections
- Dimensions: 29” length x 36.5” width x 26.5” height
- Controlled electronically
- Multiple valve configurations available (Add-A-Fold and Add-A-Stack)
SCE Spin-A-Veyer™ Valves

Features:
- Pressures to 3500 psi
- Pressure compensated flows to 22 gpm
- Interchangeable flow rates
- Unparalleled meterability
- High flow relief
- Adaptable to gear pump or load-sensing systems
- Integrated power beyond (high pressure carry over)
- Hardened cartridge bores and spools
- Manual override standard
- Easy to service and repair
- Optional weather resistant enclosure
- Provides independent control of both the auger, spinner, and liquid output flows
- Dimensions: 11” length x 12” width x 8.5” height
- Electronically operated
HYDRAULIC VALVES

Add-A-Fold® Valve

Features:

- Maximum operating pressures: 3000 and 4500 psi
- Flows to 50 gpm
- Manifold mounted valve sections
- Modular sub-base design
- Rack and Pinion manual handle overrides
- Unique self piloted electric actuators
- Gear pump (open centre) or load-sensing versions available
- Optional auxiliary manifolds
- Spool stroke limiters for both A and B work ports
- Pilot coil manual overrides
- Pre-wired valve harnesses
- Dimensions: 16.5” length x 19” width x 14.5” height
- Electronic controls
- Up to 9 sections

<table>
<thead>
<tr>
<th>Dim.</th>
<th>Valve Selections</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>16.50 20.50 24.00 27.75 31.50 35.00</td>
</tr>
</tbody>
</table>

All dimensions are approximate
Features:

- Maximum operating pressure of 3500 psi
- Flows up to 40 gpm
- Stackable high and low flow sections
- Five different valve operators available
- Gear pump or load-sensing versions available
- Work port options standard
- Stackable Spin-A-Veyer™ valve section
- Hard chrome plated spools
- Optional individual section compensation
- Optional individual section flow regulators
- Bulkhead style sealed cable
- Pre-wired valve harnesses
- Add up to 11 sections
- Electronic, cable or air controls
- Dimensions: 20.5" length x 19" width x 11.5" height
HYDRAULIC VALVES

Models QA and QD Flow Control Valves

Features:

- Pressure compensated flow regulator
- Maximum operating pressure: 2500 psi
- Flows up to 40 gpm
- Available with single or double controls
- Can be supplied with or without manual shut-off option
- Relief options available: no relief, non-adjustable relief, and adjustable
- SAE or NPT net porting available
- Load sensing version available
HYDRAULIC VALVES

17 Series Directional Control Valve

Features:

• Stackable design allows for customizing the assembly to your specific needs
• Flows up to 17 gpm
• Maximum operating pressure: 3500 psi
• Compact size and lightweight design
• Precision machined spools are hard chrome plated for maximum life and corrosion resistance
• Diamond lapped bores
• 100% preassembled and pretested before shipping
• Parallel circuit design permits all spools to be operated independently or simultaneously with the lightest load receiving priority
HYDRAULIC VALVES

V20 Series Directional Control Valve

Features:

- Pressures up to 30 gpm
- Maximum operating pressure: 3500 psi
- Cable, air, electric, or hydraulic controls
- High tensile ductile iron for durability and shock load resistance
- Compact size and lightweights to fit your installation needs
- Precision machined spools with extra fine metering control and low spool forces
- Available in SAE or NPT porting
- Stackable design to customize to your needs
- Large variety of spool types and spool positioner options
- Wide range of work port options including port reliefs, anticavitation valves, port restrictors, pilot operated check valves (lock valves), and power beyond capabilities
HYDRAULIC VALVES

V40 Series Directional Control Valve

Features:

- Electric, hydraulic, or pneumatic remote spool actuator options available
- Pressures to 40 gpm
- Maximum operating pressure: 3500 psi
- Internal pilot porting for solenoid and EPC actuators – requires no external tubing
- Extra-fine metering capabilities – metering notches in the spool
- NPT or ORB ports
- All ports will accommodate ORFS fittings
- Symmetrical spools – handle can be mounted on A or B port end
- Pilot-operated or differential poppet type relief valves available
- Available for open centre, closed centre, and power beyond capabilities
CONTROL VALVES

Directional Control Valve

Features:

- Adapted with strong wet-type solenoid and circuit designs to accomplish high pressure, large volume flow and lower pressure drop
- Many spool types and various solenoids available
- Allows free flow in one direction and prevent flow in the reverse direction
- Flows from 16 gpm to 132 gpm
- Pressures up to 4500 psi
- Subplates and manifold assemblies available upon request
Features:

- Pressure reducing valves
  - Flows from 10.6 gpm to 66 gpm
  - Pressures from 100 psi to 2930 psi
- Relief valves
  - Flows from 4.2 gpm to 106 gpm
  - Pressures from 1000 psi to 3600 psi
- Solenoid controlled relief valves
  - Flows from 26.4 gpm to 106 gpm
  - Pressures up to 3600 psi
- H and HC type pressure control valves
  - Flows from 13.2 gpm to 66 gpm
  - Pressures up to 3000 psi

- Check valves
  - Flows from 4.2 gpm to 60.8 gpm
  - Pressures up to 3600 psi
  - Cracking pressures from 6 psi to 70 psi
- Unloading relief valves
  - Flows from 33 gpm to 66 gpm
  - Pressures up to 3000 psi
  - Pressure adjustment ranges: 360 - 1000 psi, 500 - 2000 psi, 1000 - 3000 psi
Features:

- Solid and tubular shafts available
- Assembled with high speed electronic balancing
- Engineering possibilities for virtually any application
- Components include: end yokes, companion flanges, hanger bearings, slip yokes, u-joints, tube yokes, and yoke shafts
HYDRAULIC RESERVOIRS

Features:

- Available in aluminum, steel, and polyethylene
- Sizes range from 15 to 75 US gallons
- Side mount or upright installation
- 100% pressure tested to eliminate leaks
- Carbon steel straps – optional stainless steel straps on some models
HYDRAULIC RESERVOIRS

Slim Line Reservoirs

Features:

- 10 gauge powder coated pickled steel
- Heavy ¼" steel brackets for vehicle frame mounting
- Available with access hole for reservoir mounted return filter
- Available with internal and external filters
- Access hole cover plate also available
- Internally baffled with return flow deflection plate to prevent suction aeration
- Sizes from 20 to 50 US gallons
PF Series Return Filter

Features:
- Aluminum alloy head
- NPT or SAE ports
- Spin-on cartridge filter element designed for easy maintenance
- Flow ratings up to 120 gpm
- Working pressures up to 176 psi
- Micron ratings up to 25

HP 171-451 Pressure Filter

Features:
- Suitable for a working pressure up to 6000 psi
- In-line mounted
- Filter elements are available down to a filter fineness of 1pm
- Micron ratings of up to 25

PM Series Return Filter

Features:
- Anodized aluminum alloy housing
- NPT, SAE, or BSP ports
- Flow ratings up to 30 US gpm
- Working pressures up to 3000 psi
- Micron ratings up to 25

Reservoir Mounted Return Filter

Features:
- Externally mounted return filter with 25 psi by-pass valve
- 10 micron microglass media
- 100 gpm return flow capacity
- Includes element
FILTER REGULATOR LUBRICATOR

Features:

- Pressure range from 7.11 – 120.87 psi
- Maximum service pressure of 135.09 psi
- Temperature range from 5 – 60ºC
- Oil bowl capacity of up to 90CC
- Port sizes from 1/8 – ½ PT
- 40 micron filtration
HOSES & FITTINGS

Features:

• Canada’s only coast to coast stocking master distributor of Weatherhead mobile products
• Brass and air brake fittings
• Tube and pipe fittings
• Low-pressure valves
• Quick-disconnect couplings
• Hydraulic and pneumatic hose
• Teflon wire-braided hose
• Hose end fittings
• Hose assembly and fabrication equipment
PRE-WET TANKS

Features:

- U-body and V-body tanks
- 150, 200, or 300 gallon capacity
- High-density polyethylene with UV protection
- Serviceable bulkhead connectors
- 1-1/2" quick disconnect bottom fill
- 5" top fill cap
- Liquid relief valve with gauge
- Powder coated steel carriers
- Non-corrosive plumbing
- Integrated power units
- Optional liquid level sensing available
Features:

- Closed loop hydraulic liquid dispensing system designed for a constant application rate of de-icing solution directly on granular material.
- System calibration and programmable application rates are accomplished by the use of an MTO approved micro-processor and the Force America SSC5100 controller, Ultra Series, SSC6100 Controller.
- Compatible with, but not limited to, a variety of deicing solutions including sodium chloride, calcium chloride, magnesium chloride, potassium acetate.
- Pump is constructed of bronze corrosion resistant casting with special cast bronze gears.
- Pump, motor, and flow meter are mounted in a 14" wide x 16" high x 6.5" deep 14 gal. Nema enclosure.
- Pump features self lubricating carbon bearings for longer lifespan and is capable of producing 11 gpm @ 1800 rpm.
- Hydraulic motor requires a 5 gpm flow max @ 1500 psi.
- Connection between the hydraulic motor and system pump features a flexible coupling to protect the pump and motor in the case of frozen anti-icing material.
- Nema cover over rotating flex coupler protects operator from moving parts.
- Modular turbine-style flow meter allows for accurate control of MTO systems. Closed loop flow meter is accurate + or – 5% without recalibration for applications from 5% to 30% on both MTO salt and sand rates.
- Flow meter features easy cleaning and replaceable components to control maintenance costs.
ELECTRIC OPEN LOOP

Features:

- Manual electrical liquid dispensing system, designed for constant application rate of de-icing solution directly on material
- System uses in-cab controller with a 10 place dial, back lit display, on/off switch and protected by a 10 amp thermal fuse - Cab control has an optional low-level indicator light and buzzer
- System is compatible with a variety of de-icing solutions, including sodium chloride, calcium chloride, magnesium chloride, potassium acetate, and CMA
- 12 volt DC 10 amp 3 chamber diaphragm pump rated at 3.3 gpm and 60 psi
- Self-priming up to 8 vertical feet, pump seals are viton/santoprene and housing is polypropylene
- Two threaded swivel ports with ½" hose barbs attached ¼" NPT drain port
- Mounted using stainless steel 10-24 screws with rubber vibration damping mounts
HYDRAULIC SERIES OPEN LOOP

Features:

• Open loop hydraulic 4 liquid dispensing system designed for a linear application rate of de-icing solution directly on material
• Calibration of the system accomplished through the use of an incab controller with a 10 place adjustable dial
• System is designed to be installed into the vehicle’s hydraulic system by the use of the auger exhaust oil flow
• Compatible with a variety of de-icing solutions
• Roller pump type with 4 poly rollers made with corrosion resistant alloy material
• Delivers 9 gpm @ 1800 rpm
• 5 gpm max hydraulic coupling
• Protected with stainless steel enclosure – 14" wide x 16" high x 6.5" deep
ANTI-ICING SYSTEMS

Critical Spot Sprayer

Features:

• Turn-key System
  → Ready for use, no assembly needed, in 200, 300, 400 and 500 gallon systems.
• No Transfer or Pumping Stations Needed
  → Standard system includes integrated liquid loading, unloading, and transfer functions.
• Ultra-Compact Design
  → Revolutionary design allows easy transfer between all standard pickup bodies and flatbeds.
• Unique Spray Bar Mounting and Storage
  → Complete adaptability allows users to go from storage to use in seconds with this exclusive receiver hitch style mounting.
• Heavy-Duty 5.5 hp Honda Engine
  → Power needed for the most demanding applications.
• Optional Herbicide Sprayer Bar
  → Offers additional flexibility for applying agriculture chemicals.
• Built-in Forklift Pocket
  → Fast and simple loading and unloading with lift system.
• High Flow Pump with 1, 2, or 3 Lane Spray Boom Systems
  → Pump produces 88 gpm at 40 psi, which is capable of up to 60 gallons per single lane.
ANTI-ICING/DUST CONTROL SYSTEMS

Features:

- Designed to apply a constant application of various liquids to road surfaces
- Tank capacities vary from 500 to 3200 US gallons
- Units are available on skid mounts, mounted on a truck frame or selfloading into dump body
- Systems can be hydraulic or engine driven
- 1, 2, or 3 lane spray bars available in either 304 stainless steel or schedule 80 PVC
- Product pump capacity is a 190 gpm
- Systems are hydraulic closed loop ground speed based to accurately monitor discharge rates
- Specifications upon request
- Custom built units available
STORAGE TANKS

Vertical Bulk Storage Tanks

Features:

- Free standing with a flat bottom for indoor or outdoor installations
- Manufactured from medium or high density polyethylene with U.V. inhibitors
- Designed for containment of liquids of up to 1.7 specific gravity
- Tank walls are translucent for level viewing and equipped with gallon indicators
- Available in capacities from 20 – 10,500 gallon
STORAGE TANK FLOW METERS

Flow Meters

Features:

- Choose from a variety of styles including: panel mount, in-line unit with molded body, pipe mount, and saddle mount
- Paddlewheel type insertion flow sensor
- Monitors flow rates from 1.0 to 20 feet per second
- Signal can travel up to one mile without a booster
- Eight digit easy to read LCD display
- Front panel push buttons allow the operator to toggle between functions
- Powered by four standard AA batteries or an AC/DC plug-in wall transformer
STORAGE TANK PUMPS

Pump With Electric Drive

Features:

- Stainless steel construction for rugged dependable service
- Precision molded construction
- Corrosion resistant
- Replaceable inlet and outlet flanges
- Dynamically balanced impeller
- Low maintenance
- Lightweight
- Available in single or 3 phase
- Stainless steel available in 3, 5, or 10 HP; 230 volt
- Polypropylene available in 1 ½, 3, or 5 HP; 115 or 230 volt
STORAGE TANK PUMPS

Pump With Engine Drive

Features:

- Commercial grade
- Powerful overhead valve
- Oil alert
- Quiet, easy starting
- Industrial 2-stage air filter
- 5 ½ HP
SALT BRINE PRODUCTION

Model SB600

Features:

- Heavy duty, UV stabilized, molded high-density polyethylene plastic construction
- 110% secondary containment to meet strict environmental regulations
- Plastic components throughout the system provides increased longevity
- New 3” and 6” drains make cleaning effortless
- 3600 gallon per hour continuous production
- Full range salinity adjustment
- Automatic refill and shutoff
- 600 gallon onboard storage capacity
- 110 gpm submersible pump
- Remote pump switch
- Ground fault interrupt circuitry
- Turn-key system
- Dimensions: 120” length x 60” width x 62” height
- Dry weight: 1500 lbs.
Features:

- Rugged, 304 stainless steel construction
- Loader attachment provides for efficient clean out of the hopper
- 5000 gallons per hour throughout (subject to water supply)
- 1,400 gallon onboard storage capacity
- Full range salinity adjustment automatic
- Auto refill and shutoff
- 3HP stainless steel centrifugal pump
- Remote pump switch
- Ground fault interrupter circuitry
- Turn key system
- Dimensions: 120" length x 96" width x 85" height
- Dry weight: 2200 lbs.
SALT BRINE SYSTEM

Insulated Shelter

Features:

• Designed specifically for Salt Brine Production System Model SB600.
• Also ideal for corrosive chemical storage, bridge deck de-icing stations, and transfer stations enclosure.
• Rugged, UV stabilized, high-density polyethylene construction ensures longevity
• Unique molding process allows foam insulation to be placed between double walled plastic shell
• Floorless design allows for easy placement over existing equipment
• Perimeter flange makes bolting to customer supplied concrete pad fast and simple
• The modular design allows you to increase the length of the shelter as needed, allowing virtually limitless possibilities
• Shown with optional thermostatically controlled heaters and air-actuated lift system
• Completely wired and ready for final installation to customer supplied power source
• Exceptional resistance to wind and snow loads
• Dimensions: 154” length x 106” width x 103” height
# POWER TAKE OFFS

<table>
<thead>
<tr>
<th>GB Series Front Mount Gear Box</th>
<th>CS6 and CS8 Series Clutch Shift PTO</th>
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</thead>
<tbody>
<tr>
<td><strong>Features:</strong></td>
<td><strong>Features:</strong></td>
</tr>
<tr>
<td>• Wide variety of front drive options</td>
<td>• High strength ductile iron housings</td>
</tr>
<tr>
<td>• Six speed ratios</td>
<td>• Torque ratings from 275–350 lb. ft.</td>
</tr>
<tr>
<td>• Shift options</td>
<td>• Patented internal drag brake eliminates unwanted shaft rotation</td>
</tr>
<tr>
<td>• Lightweight</td>
<td>• Three ways to shift: hydraulic, air, electric/air</td>
</tr>
<tr>
<td>• Quiet</td>
<td>• Allows for overspeed protection</td>
</tr>
<tr>
<td></td>
<td>• More speed ratios</td>
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</table>

<table>
<thead>
<tr>
<th>CS20 Series Clutch Shift PTO</th>
<th>TG Series Powerflex PTO</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Features:</strong></td>
<td><strong>Features:</strong></td>
</tr>
<tr>
<td>• Multiple position - 360° rotatable hydraulic flanges</td>
<td>• Torques from 175 to 285 lb. ft.</td>
</tr>
<tr>
<td>• Ten output shaft types</td>
<td>• Ten different speed ratios</td>
</tr>
<tr>
<td>• Features five internal speed ratios</td>
<td>• Simple installation in every application with no adapter plates required</td>
</tr>
<tr>
<td>• Torque ratings from 285–325 lb. ft.</td>
<td>• 51 interchangeable gear pitches</td>
</tr>
<tr>
<td>• Internal drag brake</td>
<td>• Options of mechanically shifting by air, cable, lever, and electronically shifting</td>
</tr>
<tr>
<td>• Compact design</td>
<td>• Capacities from 33 to 54 HP at 1,000 rpm</td>
</tr>
<tr>
<td>• Two housing configurations</td>
<td></td>
</tr>
</tbody>
</table>
HYDRAULIC MOTORS

Hydraulic Motors with Sensors

Features:

- Multi-function Hall-Effect sensors provide information on shaft rotation and provide inputs to controllers, rate meters, counters, and programmable logic controllers.
- Speed sensors convert rotary movement to electrical (digital) signals indicating positive changes.
- Rugged and compact.
- Low current drain.
- Standard connectors.
- Wide operating range.
- Does not breech high pressure area.
- Reverse polarity protected.
- Flows up to 25 gpm.
- Pressures up to 3000 psi.
- Displacements from 3.2 cu. in. to 127.7 cu. in.
- High torque applications.
ROAD WATCH SYSTEM MOUNTING ACCESSORIES

Suction Cup Window Mount

Features:

- Alternate mounting for trucks or cars
- Compact sensor mounting with quick release tabs
- Provides instant system attachment

Mini “C” Mount

Features:

- Alternate mounting for trucks or cars
- Stainless steel
- 11” long x 2” deep
ROAD WATCH SYSTEM MOUNTING ACCESSORIES

Display Mounting Pedestal

Features:
• Display sets inside molded pedestal for enclosed dash top installation
• All hardware included

Display Mounting Bracket

Features:
• Standard "L" instrument mounting bracket
• Top of dash or bottom edge of dash installation

Sensor Mounting Bracket

Features:
• Alternate mounting for trucks
• Sensor mounting for behind the sleeper or on the frame
CONSOLES & PEDESTALS

Custom Consoles and Multi-Positional Pedestals

Console Features:
- Customized consoles and pedestals for:
  - Cable operation of dump pumps
  - Operation of air PTO
  - Operation of air dump pump systems
  - Electronic function switches
- Models commonly consist of:
  - High profile console
  - Top plate and fittings kit
  - Integrated air valve (feathering)
- Optional:
  - Hi-low valve
  - Hi-low indicator light and fitting kit
  - LED indicators

Pedestal Features:
- Two point swivel action
- Accomodates up to six single lever air controls
- Three mounting points for increased in-cab brace reinforcement
- Ergonomically designed for operator comfort
- Dimensions: 12” length x 17” width x 34” height (variable depending on pedestal positioning)
- Optional:
  - Hi-low valve
  - Hi-low indicator light and fitting kit
  - LED indicators
  - Light switch brackets
  - Speader control brackets
TEMPERATURE INDICATOR

RoadWatch Temperature Indicating System

Features:

- Real-time pavement temperature for proper deployment of anti-icing and de-icing materials
- At 35º F, the visual alert notifies drivers of approaching deployment conditions
- Capable of communicating road and air temperature data to other equipment or systems
- Lifetime accuracy without re-calibration
- Seven hour calibration cycle allows for records of operating and target temperatures in the RoadWatch memory
- Easily mounts on truck mirror brackets; mountings for other vehicles available
- Standard illuminated 2" diameter display
- Accuracy of ±1º of full scale or ±1ºF (whichever is greater)
- Available in ºC or ºF
ROADWATCH SYSTEM POWER CABLES

12 Volt Vehicle Power Cable

Features:

- Plugs into cigarette receptacle for quick installations
- Colour-coded ring terminals with strain relief located over power studs provide positive attachment
- 8 ft. in length

12 Volt Quick Connect Power Cable

Features:

- Fuse protected display
- Colour-coded ring terminals with strain relief located over power studs
- Opposite end stripped and tinned
- 6 ft. in length