HCS
Spreader Control Valves
Manual and Electronic Catalog
Parker Hannifin introduces the
Model PSM1000 Parker Spread Master System
designed to provide reliable application of salt and sand with remote electronics and a safer quieter cab environment. The electronics provide remote proportional control of the Feed Rate and Spinner for your V-Box or Tailgate Spreader.

The PSM1000 System will provide greater return on operator investment through accuracy in distribution control.

Features and Benefits:

• Complete System with One Part Number
• Electronics, Wire Harness and Hydraulic Manifold Shipped in One Box
• Deutsch and Weather Pak Connectors, You Only Connect Power and Ground
• 500 ms Fixed Ramps for Accel and Decel
• Circuit Protection: If Overload Condition, System Shuts Down; Reset Power Button to Restart.
• Operating Range -40 Degrees F to 180 Degrees F
• IP65 Electronic Enclosure for Splash Proof “Coffee Test”
• “Blast” is a Momentary Button for a 5 Second Duration at Maximum Output with controller on or off for spot applications.
• Back-lit for easy viewing of position in night time operation

Performance Objectives:

• Total System Reliability
• Safer/Quieter Environment
• Improved Cab Ergonomics
• User Friendly

Parker Solution:

• Complete System from Parker
• Removed Hydraulics from Cab with Remote Compact Electronics
• Easy to Operate Controls

May 2006
System #PSM1000 includes:

- Electronic Control Module PSM1000C
- Control Manifold Assembly PSM1000M
- Wiring Harness PSM1000H
- Application Instructions PSM1000AI

**PSM1000C Features:**

- Main Power Button
- Temperature Compensated at 200Hz PWM for Stable Electronic Control
- Feed Rate Speed Control – 10 detents
- Spinner Speed Control – 10 detents
- Blast Button – Preset for 5 Second Duration
- EMI/RFI Compliant
- Solid State Circuit Protection
- Wiring Harness Included for Plug-N-Play Capability

**PSM1000M Features:**

- Feed Rate Proportional Cartridge 16 gpm
- Spinner Proportional Cartridge 7 gpm
- Manual Over-Rides
- Proportional Unloader for Fixed Displacement Pumps
- System Safety Relief in Open Center Systems
- Standard SAE Ports with Gage port added
- 3000 psi Operation
- Load Sense System Capability

**System Schematic:**

**ORDER PART NUMBER:** PSM1000

Parker Hannifin Corporation
Integrated Hydraulics Division
595 Schelter Road
Lincolnshire, Illinois 60069
(847) 955-5000
www.parker.com/ihd

HY15-2006/US
1M 5/06
PSM1000 APPLICATION INSTRUCTIONS

After the PSM1000 System has been installed, the PSM1000C Controller must be calibrated for the Spreader System in the vehicle.

Calibration controls are found in the rear of the PSM1000C. See below:

**MIN** Adjustment pot sets the minimum speed the function will operate at when the controller is set to position 1.

**MAX** Adjustment pot sets the maximum speed the function will operate at when the controller is set to position 10.

*Adjustments should only be made with a small flat head screwdriver

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Set Blast controls the current level sent to the Auger control in the “Blast” mode. Set this control for the desired feed rate in the “Blast” mode.

For Open Center Systems
- Designed for Fixed Displacement Pumps
- Power Beyond of Open Center Valve will be plumbed to “P” port of PSM1000M...L.S. port will remain plugged......
- With series circuit, spool valves will have priority and interrupt flow to PSM1000M spreader requirements.....

For Closed Center Systems with Load Sensing pumps
- Block “T” and connect the LS port to the Pump LS via a LS Shuttle valve, CS041B-A4T, when used in conjunction with any other LS control valve.
Parker Spread Master System
An Auxiliary Spreader Function Option

Customer Value Proposition:

The PSM1500-1 is designed as a low cost auxiliary option to provide reliable application of salt or sand. At the same time, the remote electronics offer a safer, quieter cab environment. The electronics provide remote proportional control of the spinner function for your V-Box or Tailgate Spreader.

The PSM1500-1 System will provide greater return on operator investment through precise, accurate control.

Product Features:

- Complete system with one part number
- Deutsch and WeatherPak connectors - You only connect power and ground
- Proportional cartridge, 15 GPM
- Circuit protection: If overload condition, system shuts down; reset power button to restart

Contact Information:

Parker Hannifin Corporation
Hydraulic Cartridge Systems
595 Schelter Road
Lincolnshire, IL 60069

phone 847-955-5000
HCSInfo@parker.com
www.parker.com/hcs
Customer Value Proposition:

Similar to the PSM1500-1, the PSM1500-2 offers consistent control of the spinner for even application of salt and sand. PSM1500-2 differentiates itself with the addition of the remote electronically proportionally controlled Feed Rate feature.

This integrated package helps provide optimum constant density spreading capability, thus providing maximum cost savings for material and fuel.

Product Features:

- Complete system with one part number
- Proportional cartridge, 15 GPM
- Deutsch and WeatherPak connectors - You only connect power and ground
- Circuit protection: If overload condition, system shuts down; reset power button to restart

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General Description
The QA and QD Series, Flow Controls are designed for applications such as spreaders where precise control of one or two functions may be required without regard to variations in load pressure. These valves are used mainly on snow removal equipment, but can also be used for other applications such as sand and fertilizer.

Operation
The basic valve consists of at least one or two pressure compensated, priority type flow controls. This valve will provide a constant flow regardless of changes in load or changes in the pump output. Any excess flow from the pump or flow greater than the load requirement will be diverted to the tank port of the valve.

A second pressure compensated, priority type flow control is available. This enables the control of two separate functions. Other options include a relief valve to regulate inlet pressure, a solenoid bypass valve, a manual bypass valve, and a load sensing option.

Features
- Hardened and precision ground parts for durability
- Easy to adjust knobs
- Adjustable flow ranges for varying applications
- Load sense option
- Manual bypass option
- Solenoid bypass option
- Anodized aluminum body for long life

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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<tbody>
<tr>
<td>Maximum Inlet Flow</td>
<td>150 LPM (40 GPM)</td>
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<tr>
<td>Flow 1 (Spinner)</td>
<td>up to 37.5 LPM (10 GPM)</td>
</tr>
<tr>
<td>Flow 2 (Auger)</td>
<td>up to 112.5 LPM (30 GPM)</td>
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<tr>
<td>Maximum Inlet Pressure</td>
<td>172.5 Bar (2500 PSI)</td>
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<tr>
<td>Flow Accuracy</td>
<td>±5% of setting</td>
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<tr>
<td>Internal Material</td>
<td>Steel</td>
</tr>
<tr>
<td>Body Material</td>
<td>Aluminum (anodized)</td>
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<tr>
<td>Operating Temp. Range</td>
<td>-40°C to +93.3°C</td>
</tr>
<tr>
<td>(Ambient)</td>
<td>(-40°F to +200°F)</td>
</tr>
<tr>
<td>(Nitrile Seals Only)</td>
<td></td>
</tr>
<tr>
<td>Approx. Weight</td>
<td>3.2 kg (7.2 lbs.)</td>
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Series QDB

Non Adjustable Relief Option

Adjustable Relief Option

7.1 (.28) Dia. Thru 2 Mtg. Holes

Non Adjustable Relief Option

Adjustable Relief Option

Series QDS

Non Adjustable Relief Option

Adjustable Relief Option

Dimensions Millimeters (Inches)
Series QDN

Dimensions Millimeters (Inches)

Series QDL

For 3/4 NPT
### Ordering Information

#### Flow Control Valves

**Series QA and QD**

<table>
<thead>
<tr>
<th>Code</th>
<th>Style</th>
<th>Type</th>
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<tbody>
<tr>
<td>Q</td>
<td>Flow Control</td>
<td>Style</td>
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<tr>
<td>12</td>
<td>Type</td>
<td>Port Size</td>
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<tr>
<td>A</td>
<td>Spinner</td>
<td>Spinner Adjustment</td>
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<td>B</td>
<td>Auger</td>
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<td></td>
<td>Flow</td>
<td>Auger Flow</td>
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<td></td>
<td>Relief</td>
<td>Relief Setting</td>
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<td></td>
<td></td>
<td>*Coil Voltage</td>
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<tr>
<td></td>
<td></td>
<td>*Coil Connections</td>
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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>D</td>
<td>Dual Flow Control</td>
<td>A</td>
</tr>
<tr>
<td>A</td>
<td>Single Flow Control</td>
<td>D</td>
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<th>Code</th>
<th>Style</th>
<th>Type</th>
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<tbody>
<tr>
<td>A</td>
<td>Standard (No Shutoff)</td>
<td>B</td>
</tr>
<tr>
<td>L</td>
<td>Load Sensing with Manual Shutoff</td>
<td>S</td>
</tr>
<tr>
<td>N</td>
<td>Load Sensing</td>
<td>D</td>
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<tr>
<td>S</td>
<td>Solenoid Shutoff</td>
<td>C</td>
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<tr>
<th>Code</th>
<th>Port Size</th>
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<tr>
<td>12</td>
<td>Standard</td>
<td>Port Size</td>
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<td>SAE-12 Inlet and Tank Ports</td>
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<td></td>
<td>SAE-10 Work Ports</td>
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<th>Code</th>
<th>Style</th>
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<tbody>
<tr>
<td>NR</td>
<td>No Relief</td>
<td>Relief</td>
</tr>
<tr>
<td>AR</td>
<td>Adjustable Relief</td>
<td>A</td>
</tr>
<tr>
<td>NA</td>
<td>Non-Adjustable Relief</td>
<td>D</td>
</tr>
</tbody>
</table>

**NOTE:** A relief option should be chosen on all types except L and N. Standard factory setting is 2000 PSI if not specified.

#### Service Parts

- Adjustable Relief Valve: 95018-01 172.4 Bar (2500 PSI)
- Solenoid Valve: DS161N

#### Service Parts

- Adjustable Relief Valve: 95018-01 172.4 Bar (2500 PSI)
- Solenoid Valve: DS161N

- Code Relief
  - NR: No Relief (L and N only)
  - AR: Adjustable Relief
  - NA: Non-Adjustable Relief

- *D style only.

- Code Coil Voltage
  - Omit No Coil
  - 12: 12 VDC
  - 24: 24 VDC

- *QDS only.

- Code Coil Connections
  - Omit No Coil
  - B: Dual Spades
  - D: 24" Dual Lead Wires

- *QDS only.
Sales Office

North America
United States, Northeast
phone 847-955-5008
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