- Superior driver comfort
- Cargo and equipment protection
- Extended vehicle life
HAS™ SERIES Suspension Specifications

HAS provides the advantage of air to deliver increased driver comfort, superior cargo protection, longer equipment life, less downtime and lower life cycle costs. Designed for multiple applications including beverage, fire rescue, sweepers, recycling vehicles, sweepers, tanker tractors, RVs, on-highway vans, school buses and commercial bus applications.

**Main Support Members**
- Designed and manufactured by Hendrickson with advanced materials and process technology
- Substantial reductions in spring weight and increased strength

**Axle Connection**
- Wide seats provide a secure axle connection and axle integrity

**Air Springs**
- Large volume air springs with rolling lobe design constantly adjust to changing road conditions to deliver superior ride quality

**Frame Hangers**
- Designed for lightweight and maximum durability

**Cross Channel**
- Stamped steel provides lateral support

**Shock Absorbers**
- Outboard mounted to maximize stability
- Inboard mounted shock configuration available

**Specifications**

<table>
<thead>
<tr>
<th>Specifications</th>
<th>HAS 120</th>
<th>HAS 150</th>
<th>HAS 190</th>
<th>HAS 210</th>
<th>HAS 230</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspension Capacity</td>
<td>12,000 lbs.</td>
<td>15,000 lbs.</td>
<td>19,000 lbs.</td>
<td>21,000 lbs.</td>
<td>23,000 lbs.</td>
</tr>
<tr>
<td>Suspension Weight(^1)</td>
<td>396 lbs.</td>
<td>396 lbs.</td>
<td>423 lbs.</td>
<td>454 lbs.</td>
<td>470 lbs.</td>
</tr>
</tbody>
</table>

Typical Applications: Beverage trucks, buses, emergency vehicles, recycling vehicles, sweepers, tanker tractors, RVs and on-highway vans. Contact Hendrickson if you have any questions regarding an air suspension application not listed.

1. Installed weight includes complete suspension, torque rods, axle and frame brackets and all hardware.

All listed applications must comply with applicable Hendrickson specifications and must also be approved by the respective vehicle manufacturer with the vehicle in its original, as-built configuration. Contact Hendrickson and the respective vehicle manufacturer for approval of additional applications.

For additional details regarding specifications, applications, capacities, and operating, service and maintenance instructions contact Hendrickson or respective vehicle manufacturer directly.

Actual product performance may vary depending upon vehicle configuration, operation, service and other factors.

All applications must comply with applicable Hendrickson specifications and must be approved by the respective vehicle manufacturer with the vehicle in its original, as-built configuration. Contact Hendrickson for additional details regarding specifications, applications, capacities, and operating, service and maintenance instructions.

Call Hendrickson at 630.910.2800 or 855.RIDERED (743.3733) for additional information.