

**DELIVERING | WHAT'S NEXT**



## **GENERAL PURPOSE RAILCAR PRODUCTS**

For the Safe Loading, Transport and  
Unloading of Toxic Materials



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## Quality, Safety and Support – Midland’s General Purpose Railcar Products Lead the Industry in Innovation and Reliability

### Midland’s Mission

Since 1951, Midland has been dedicated to supplying the most reliable valves and level measurement devices for the railroad market. With an innovative approach to engineering simple designs that meet the most demanding needs, Midland continuously leads the way in shaping the technological evolution of railroad tank-car transportation equipment that’s safe, reliable and easy to use and maintain.

### A Legacy of Quality

Seven decades of real-world experience has resulted in a manufacturing company that anticipates the industry’s needs and delivers superior products that help protect workers and the environment. This is Midland’s legacy of quality. It starts with intuitive product development that answers the needs of the market without compromise, and continues through Midland’s innovative engineering design process.

Precision lean manufacturing, using only the highest quality materials, is employed in a flexible, world-class production environment, assuring

on-time delivery of your product. Midland’s rigid quality control standards, utilizing statistical process control, promises reliable product performance. Every valve and level-measurement device is thoroughly tested. After testing, critical components are serialized prior to shipping, making them easily traceable for life.

Midland is ISO 9000:2000 certified and an AAR Category F registered facility.

Midland’s innovative general purpose railcar products are engineered and manufactured for the safe and efficient loading, transport and unloading of hazardous and non-hazardous bulk products. Every component is specially designed to perform in the most demanding rail tank-car applications. Midland is also committed to reducing NARs (Non-Accidental Release of Hazardous Materials) through innovative product designs and customer training.

### The difference is experience

For more than 70 years, the experts at Midland Manufacturing have led the industry by providing high-quality general purpose equipment like pressure relief valves, bottom outlet valves, rupture disc devices, level-measurement gages and other equipment to the railroad tank-car industry. Midland is unmatched in design expertise, product offering, quality, support and dedication to customer-focused service. Most of all, specifying Midland will help give you peace of mind. Its products meet – in fact, they typically exceed – Association of American Railroads (AAR) regulations.

No matter what type of commodities you ship by rail, whether it be ethanol, sulfur, alcohol, lube oil, gasoline, asphalt, styrene, corn syrup or soybean oil, Midland has complete valve and fitting packages that are designed specifically to meet your most demanding application needs.

### Value-added services and support

Midland believes that its responsibility to the customer doesn’t end after the sale has been made. Dedication to customer satisfaction and responsiveness is unsurpassed, and has been a big part of its success. That’s why Midland goes beyond expectations to offer additional value-added services.



• Technical and customer support teams provide continuous, knowledgeable product and application assistance throughout the long life of the product

- Cost-effective valve remanufacturing programs provide a total-life-cycle solution for valve maintenance with quick turnaround, new valve warranties, and detailed service histories on repaired valves
- Midland University enhances Midland’s role of industry leadership by offering professional technical seminars that educate rail professionals and customers alike in the installation, repair and operation of its railcar products, as well as the various applications in the industries they serve

### Specify Midland for quality, safety and support

Review this brochure and see what Midland has to offer. Then call 847-677-0333 or visit [www.midlandmfg.com](http://www.midlandmfg.com) and let our experts help you specify the components that are right for all of your general purpose rail tank cars.



Learn more about NARs. Go to [midlandmfg.com](http://midlandmfg.com) and follow the link to <http://nar.aar.com>

## Gaging Devices



- The industry standard in providing accurate level monitoring to allow for maximum loads and prevent overloading of tank cars that are closed loaded
- Standard 3-1/4” bolt circle flange reduces space requirements, making it easier to locate other equipment on the manway plate
- Body design provides easier access to bolting
- Tack-welded chain link is provided for easy securing of cap to body
- Stainless-steel cap eliminates rusting – knurled grip allows for easier loosening and tightening
- Graphite gage rod is completely sealed to improve durability and resistance to permeation from Glycol solutions
- Zinc-plated body and flange minimize corrosion and prevent galling between body and cap of threads
- Top spring cushions float, minimizing costly repairs to floats damaged by liquid surges in the tank
- Lightweight float provides superior performance in the widest range of specific-gravity applications
- Serial number is printed on the gage body, gage rod and adjustment nut for easy identification

## Lift Assisters



- Available for use with either insulated or non-insulated manway covers
- Provides lifting assistance up to 88 lbs. to improve operator safety
- Powder-coated springs to prevent corrosion in harsh chemical environments
- Unique low-profile lifter design doesn’t interfere with personnel on top of the car
- Self-centering design prevents pinching and damage of the manway gasket, potentially reducing NARs

## Accessories



- OPW Engineered Systems Kamlok™ quick-connect fittings to speed loading and unloading operations
- Lightweight aluminum bottom outlet valve caps reduce chance of ergonomic issues while removing and installing bottom outlet caps
- A complete range of plugs, saddles, skids, caps, chains, thermowells and air fittings are available

## Pressure Relief Valves

Midland offers the largest variety and range of pressure relief valves in the industry. Midland pressure relief valves are used in a wide range of applications and provide the additional security of being a re-closing pressure-relief device.



- Internal and external valve designs are available in pressure ratings from 75 psig to 165 psig, and flow rates up to 35,527 scfm
- O-Ring seals are easily replaced and can be used with a diverse range of commodities to maximize the in-service life of every tank car
- All valves include wire-tamper seals with the assembler's ID number, providing traceability back to Midland, and the employee who assembled and tested the valve
- Years of knowledgeable design and testing have resulted in valves with superior reliability, maximum flow rates, repeatable set pressures and easy maintenance
- Internal-style valves provide low-profile installation and are excellent choices for non-corrosive commodities
- External valves position all of the operating parts away from the lading and are excellent choices for corrosive commodities
- Combination devices incorporate a rupture disc with a pressure relief valve, providing corrosion protection for the relief valve
- PVDF insert valves are also available for aggressively corrosive services such as HCL

## Vacuum Relief Valves



- Low-cost assurance that normal vacuum conditions will not collapse or otherwise damage the tank car or tank-car fittings
- Vacuum relief valves are 100% tested to assure correct operating pressures and sealing under both vacuum and positive pressure conditions
- Corrosion-resistant, stainless-steel construction on sealing surfaces extends service life
- Quad seals provide positive sealing at vacuum and positive pressure
- Weather cap prevents elements from getting into the valve
- Available no-step design prevents manual operation of the valve which can cause damage to the stem and seals
- Available with seals that are compatible with a broad range of commodities such as Ethanol, Asphalt, Sulfur, Lube Oil, Styrene and Soybean Oil

## Bottom Outlet Valves

### Plug-Style Valves

- Spring-loaded plug ensures the valve remains closed in event of an accident
- Exclusive, low-profile design eliminates the need for AAR-required skirts – approved for protection level A of AAR circular D.V. 2007
- O-Ring seals provide resilient sealing and improve valve performance compared to PTFE-seated ball valves
- Triple-seal design on the plug provides exceptional redundant sealing for long valve service life
- A wide variety of O-Ring materials are available, including PFA encapsulated O-Rings which offer universal compatibility with most commodities, including ethanol and petroleum products
- Clean, cavity-free design prevents entrapment or isolation of media inside the valve body



### Ball-Style Valves

- Easy to use – valves open and close fully with only a quarter turn
- Unrestricted full port opening allows high flow rates for faster unloading
- PTFE seats provide universal compatibility with most commodities
- Special seat designs are available for highly viscous products such as Molten Sulfur

### A-522 and A-520 DuraSteel Ball Valve Seats



- Better dimensional stability improves sealing in hot or cold environments
- Better dimensional stability reduces cold flow and provides longer life
- Higher seat hardness resists scratching and particle contamination
- Compatible with a broad range of commodities

## Rupture Disc Devices



- Engineered and constructed to operate at pressures from 75 psi to 165 psi
- Provide reliable operation and feature heavy-duty construction to withstand the common abuse associated with the rail operating environment
- Innovative engineering enables fast, easy disc inspection and replacement in the field, saving installation time and maximizing in-service time
- Optional built-in surge protection eliminates the need for installation of secondary dampening device to protect against liquid surges in the tank
- Compatible designs are available for a broad range of commodities such as Sulfur, Caustic Soda and acid services

# Midland General Purpose Railcar Products

Reliable Quality and Innovative Design Combine to Provide Peace-of-Mind Safety in the Most Demanding Applications

## Gaging Devices

Midland Gaging Devices feature superior component engineering, resulting in the most accurate level measurement available. Graphite rods, a stainless-steel cap, and zinc-plated body and flange all contribute to delivering long-term resistance to corrosion and fast, easy gage reading. The specific-gravity adjustment nut allows builders to compensate for nozzle height variances. Serial numbers are attached to rods, bodies and guide tubes for easy identification of devices.



## Pressure Relief Valves

Both Internal and external designs are available in pressure ratings from 75 psig to 165 psig, and flow rates up to 35,527 scfm. Pressure relief valves also provide the security of re-closing after operation to minimize potential exposure of product/lading to atmosphere.



## Rupture Disc Devices

Engineered and constructed to operate from 75 psi to 165 psi, Rupture Disc Devices provide reliable, fail-safe operation and feature heavy-duty construction to withstand the common abuse of day-to-day operations. Surge-protection devices are also available to prevent liquid surges in the tank from damaging the rupture disc.



## Vacuum Relief Valves

Provide low-cost assurance that excess vacuum will not collapse or otherwise damage a rail car. No-step designs are also available to help reduce NARs from damage caused by stepping on vacuum relief valves.



## Accessories

A complete range of car accessories is available, including thermowells, air connections, saddles, caps, plugs, nipples, OPW ES Autolok™ quick couplers, OPW-ES quick coupling adaptors and ergonomic helpers such as lift assisters and aluminum bottom outlet valve caps.



## Bottom Outlet Valves

Midland plug, butterfly and ball-style Bottom Outlet Valves are specially engineered to reduce cost, extend service life and improve unloading times without sacrificing operator safety.



## OPW-ES Kamvalok® and Drylok® Valves

Used at liquid-transfer points where product loss could occur, OPW Kamvaloks® and Dryloks™ provide a reliable solution to prevent spillage during connection or disconnection of loading and unloading hoses and loading arms.



## Lift Assisters

Midland Lift Assisters include powder-coated springs to prevent corrosion in harsh chemical environments, and our unique design centers the manway cover on the nozzle to reduce pinching of the manway gaskets that can result in gasket damage and NARs.