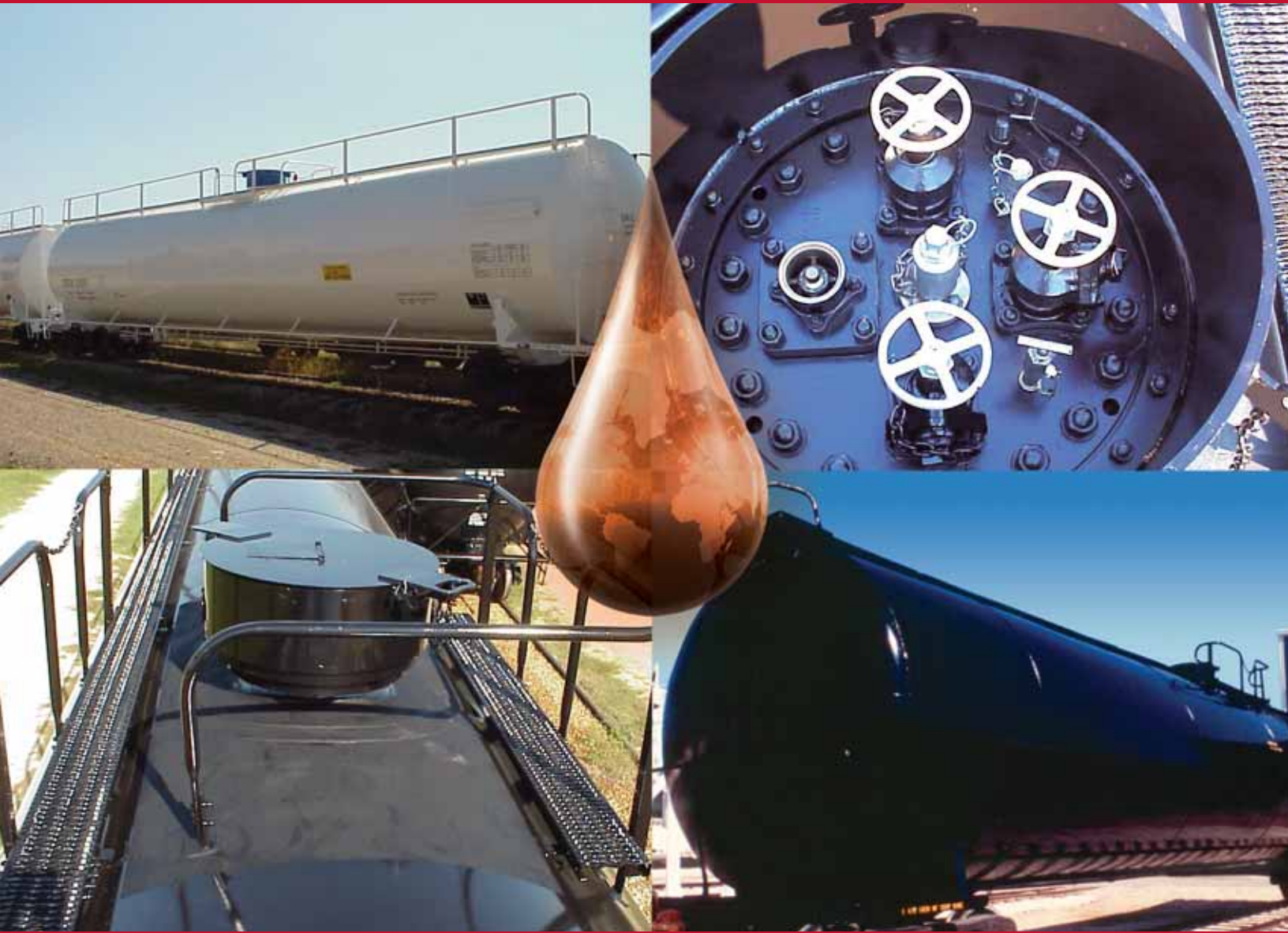


MIDLAND™

PART OF OPW FLUID TRANSFER GROUP

A DOVER™ COMPANY



PRODUCTS for PRESSURE RAILCARS
For the Safe Loading, Transport and Unloading
of Hazardous Materials



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

Five decades of real-world experience have 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, promise 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 9001:2008 certified and an AAR Category F registered facility.

MIDLAND™

Reduce Your Risk During Pressure Railcar Loading, Transportation and Unloading

America's chemical transport companies rely on Midland products for routine, safe handling of some of the most corrosive and volatile chemicals and gases, such as chlorine or liquefied petroleum gas, as well as general service products such as alcohol and corn syrup. No matter what you're shipping you can depend on Midland's market-leading reputation to deliver durable, easy-to-use and safe products that are specifically engineered to withstand the abuse of harsh rail transport environments and exceed industry standards. We also provide the industry's most responsive technical support backed by innovative engineering design that can solve even your toughest requirements.

This brochure has been designed to offer a comprehensive listing of all of the Midland products that can be used in pressure railcar applications. These listings include descriptions of the products, features and benefits, and appropriate applications for each.

For more than 50 years, the experts at Midland Manufacturing have been designing and manufacturing high-quality pressure relief valves, loading/unloading angle valves, actuator systems, level measurement gauges and other equipment for the railroad tank car industry. Midland is unmatched in design expertise, product offering, quality, support and dedication to

customer-focused service. Most of all, Midland will help you feel safe. Its products meet—in fact, they typically exceed—

Association of American Railroads (AAR) regulations. Midland recognizes

that it is the responsibility of the shipper to specify the proper railcar valves and fittings for the safe loading, transportation and unloading of products under pressure and has designed these components with the shipper in mind.

Midland's dedication to customer responsiveness is a big part of its success. Its pride and commitment to consistently providing innovative solutions, knowledgeable technical and customer support, and other value-added services to customers go above and beyond expectations. Call today, specify Midland, and reduce your risk during the loading, transportation and unloading of railcars in pressurized atmospheres.



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

Lift Assisters



- Provide lifting assistance up to 88 pounds, improving operator safety
- Engineered for versatility, durability and ease of use
- Can be used with either insulated or non-insulated manway covers
- Powder-coated springs prevent corrosion in harsh chemical environments
- Unique low-profile design doesn't interfere with personnel on top of the car, won't damage loading/unloading facilities and won't catch operator clothing
- Available in single-spring and double-spring styles

Manway Covers



- Designed to meet unique and specific application requirements
- Made from AAR-approved materials to offer long-term durability and corrosion resistance
- Can be used with either insulated or non-insulated manway covers
- More than 80 available designs meet layout spacing requirements and permit installation of emergency sealing caps over any fitting

Thermowells



- Provide non-contact access to the lading for temperature measurement using a thermometer or thermocouple probe
- Body materials include carbon steel, 316 stainless steel and alloy 20
- Device styles include flange or threaded

Midland Pressure

Reliable Quality and Innovative Design Combine to Provide

Angle Valves for Chlorine Service

Midland is committed to producing angle valves that provide safety for pressure tank cars. Longevity, high performance and ease of maintenance is standard for tank cars equipped with Midland Angle Valves. The unique seat design permits self-draining without concern for trapped product or accidental release. Soft, self-centering valve seats provide long life and positive shutoff along with lower operating torques.

Valve Actuators

Connected to external warning sensors, Midland Valve Actuators can close a valve in less than three seconds, minimizing EPA/DOT-reportable releases in the event of a leak in transfer connections.

Automated opening and closing of transfer valves keep workers a safe distance from hazardous loadings at all times.



Check Valves

High flow rates in conjunction with high-flow disturbance sensitivity and non-galling assemblies help achieve safe operation and faster unloading times.



Magnetic Gaging Devices

Provide accurate level monitoring to ensure the complete loading of railcars, while the small mounting flange size reduces space requirements, making it easier to locate other equipment on the manway plate.



Needle Valves

Midland Needle Valves keep operators safe by allowing sampling without opening larger transfer valves.



Midland Railcar Products

Peace-of-Mind Safety in the Most Demanding Applications



Pressure Relief Valves

Performance reliability and flexibility of use in one easy-to-maintain, reliable product design.

Internal and external designs are available in every DOT pressure rating, from 75 psig to 495 psig, flow rates up to 37,000 scfm.

Seals are easily maintained and replaced for use with diverse ladings. Testing of every valve assures long, safe operation, even in harsh chemical environments.



Lift Assisters

Engineered for versatility, durability and ease of use, Midland Lift Assisters feature a unique low-profile design that doesn't interfere with personnel on top of the car, won't damage loading/unloading facilities and won't catch operator clothing.



Thermowells

Midland thermowells provide non-contact access to the ladings for temperature measurement using a thermometer or thermocouple probe.



Manway Cover

For use on any Pressure Car. Standard and custom-fitting arrangements are readily available.

Needle Valves



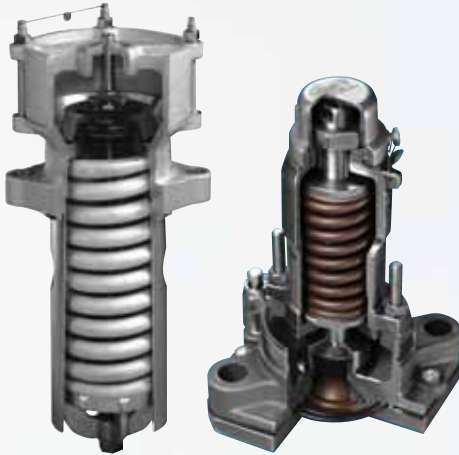
- Keep pressure-car operators safe by allowing sampling of the lading without opening a larger transfer valve
- Quality construction, durability and reliability
- Must be installed with a check valve on the tank side to prevent product loss if the sample valve nipple is inadvertently sheared off
- Stem construction available in Stainless Steel or Hastelloy C 22
- Body construction available in Stainless Steel or Monel

Magnetic Gaging Devices



- Provide accurate level monitoring to maximize the complete loading of railcars
- Small mounting flange size reduces space requirements, making it easier to locate other equipment on the manway plate
- Can retrofit existing gauging devices with a Midland Tank Car Loading System to maintain optimum load levels while reducing required fill time and allowing remote liquid-level management
- Superior component engineering enables long, care-free, accurate operation
- Lightweight floats provide superior reliability and accuracy
- Graphite rods, a stainless-steel specific gravity correction nut and cap, and zinc-plated body and flange deliver long-term resistance to corrosion and fast gauge reading

Pressure Relief Valves



- Easy to maintain, reliable designs available in internal and top styles
- Interior and exterior valve body designs are available in every DOT pressure rating, from 75 psig to 450 psig, and flow rates up to 37,000 scfm
- Sealed spring chambers and bubble-tight seal testing of every valve ensure long life and safe operation
- Seals are easily replaced for use with diverse commodities to maximize the in-service time of every tank car

Angle Valves



- Lowest number of potential leak paths in the railcar industry
- Self-centering valve seats provide positive shut off and longer service life
- Spring-loaded valve stems provide constant load on packing rings to maintain stem seal
- Carbon Steel, Stainless Steel, and Monel body construction
- Various trim materials are available
- Available in 1-, 2-, and 3-inch models for use in the top-loading of pressure cars

Check Valves



- Available for sample line, liquid lines and vapor line styles
- Engineered to provide reliable, high flow rates in conjunction with high-flow disturbance sensitivity to help operators achieve safe operation and faster unloading times
- Non-galling assemblies keep valves sliding easily without binding
- Wide range of acceptable flow rates ensure that there are no inadvertent closures that can damage a loading system
- Pressure bypass enables rapid reopening and continued operation after the cause of excess flow is corrected

Call 847-677-0333 or visit www.midlandmfg.net for more information.

OPW Fluid Transfer Group (OPWFTG), part of Dover Corporation (NYSE:DOV), is comprised of market-leading operating companies, each dedicated to designing, manufacturing and distributing world-class solutions for the safe handling and transporting of hazardous bulk products. In addition to these companies, OPWFTG has manufacturing plants in North America, Europe, Brazil and India; and sales offices in Singapore, and China.

Throughout the world, OPWFTG companies are hard at work ensuring the safe processing, loading, transporting and unloading of hazardous bulk products and safeguarding against costly petroleum and chemical spills, tank overfills and fugitive vapor emissions. Whether your need is in the chemical plant, at the terminal loading rack, or outfitting a fleet of rail tank cars, cargo tanks or dry-bulk trailers, OPWFTG systems set the standard for safety, performance and peace-of-mind assurance in the most rigorous and demanding applications. If the safe, profitable handling of hazardous liquids and dry bulk commodities such as gasoline and diesel, chlorine, chlor-alkali products, LPG, acids, cement, flour and starch, among others, is your concern, trust OPWFTG.

EXPERT SOLUTIONS FOR THE SAFE HANDLING & TRANSPORTING OF HAZARDOUS BULK PRODUCTS

	Applications	Processing	Load	Transporting		Unload
PETROLEUM	<ul style="list-style-type: none"> Gasoline Ethanol Alcohols Fuel Oil LPG 	<ul style="list-style-type: none"> Bellow Sealed Valves Sample Valves Lined Ball Valves Lined Butterfly Valves Industrial Valves ISO Rings Sight Flow Indicators Globe Valves Swivels Dry Disconnects 	<ul style="list-style-type: none"> Loading Arms Couplers Rack Monitors Dry Disconnects API Coupler Swivels 	Cargo Tanks <ul style="list-style-type: none"> Manholes Vapor Vents Electronics Internal Valves API Adaptors Sealed Parcel Pneumatic Controls Manifold Systems 	Rail Tank Cars <ul style="list-style-type: none"> Pressure Relief Valves Plug Valves Ball Valves Level Measurement Autoloks Kamvaloks Dryloks Rupture Disc Devices Angle Valves 	<ul style="list-style-type: none"> Drylok Couplers Adaptors Delivery Elbows Vapor Recovery Elbows Swivels
CHEMICALS	<ul style="list-style-type: none"> Chlorine Acids & Bases Amines Anhydrous Ammonia Propylene Butadiene Hazardous Liquids 	<ul style="list-style-type: none"> Bellow Sealed Valves Sample Valves Lined Ball Valves Lined Butterfly Valves Industrial Valves ISO Rings Sight Flow Indicators Globe Valves Swivels Dry Disconnects Quick Disconnects Epsilon 	<ul style="list-style-type: none"> Loading Arms Autoloks Kamvaloks Dryloks Loading Manholes Valves Actuators Swivels Epsilon 	Cargo Tanks <ul style="list-style-type: none"> Manholes Vapor Vents Electronics Internal Valves Sealed Parcel Epsilon 	Rail Tank Cars <ul style="list-style-type: none"> Safety Valves Plug Valves Ball Valves Level Measurement Autoloks Kamvaloks Dryloks Rupture Disc Devices Angle Valves Epsilon 	<ul style="list-style-type: none"> Loading Arms Autoloks Kamvaloks Dryloks Valves Actuators Safety Breakaways Swivels Epsilon
DRY BULK	<ul style="list-style-type: none"> Cement Flour/Starch Pharmaceuticals 	<ul style="list-style-type: none"> Industrial Valves Sight Flow Indicators Butterfly Valves Swivels 	<ul style="list-style-type: none"> Loading Arms Aerators Hatch Covers Swivels 	Cargo Tanks <ul style="list-style-type: none"> Manholes Check Valves Hopper Tees Butterfly Valves Aerators Weld Rings 	Rail Cars <ul style="list-style-type: none"> Manholes Hatches Access Ports Check Valves Hopper Tees Butterfly Valves Aerators Pressure Vacuum Valves 	<ul style="list-style-type: none"> Aerators Butterfly Valves Tank Hatches Pressure Relief Vacuum Relief Temperature Monitoring
INDUSTRIAL/GENERAL	<ul style="list-style-type: none"> Food Processing Pharmaceuticals Waste Water High-Purity Liquids Breweries Pulp and Paper Steel Processing 	<ul style="list-style-type: none"> Lined Ball Valves Lined Butterfly Valves Sample Systems Sight Flow Indicators ISO Rings Dry Disconnects Swivels Quick Disconnects High-Performance Butterfly Valves Epsilon 	<ul style="list-style-type: none"> Loading Arms Couplers Rack Monitors Swivels Dry Disconnects Quick Disconnects Butterfly Valves Epsilon 	Cargo Tanks <ul style="list-style-type: none"> Manholes Vapor Vents Electronics Weld Rings Hopper Tees Pneumatic Controls Sealed Parcel Dry Disconnects Epsilon 	Rail Tank Cars <ul style="list-style-type: none"> Safety Valves Plug Valves Ball Valves Level Measurement Autoloks Kamvaloks Dryloks Rupture Disc Devices Angle Valves Epsilon 	<ul style="list-style-type: none"> Loading Arms Couplers Rack Monitors Swivels Dry Disconnects Quick Disconnects Butterfly Valves Epsilon

Chemical & Industrial Processing Market Unit

- Food Processing
- Chemical Plants
- Petroleum Loading Stations
- Steel Processing, Pulp & Paper
- Waste Water Treatment
- Pharmaceutical
- Breweries
- High-Purity Liquids

Rail Market Unit

- Pressure & General Purpose Rail Tank Cars
- Dry Bulk Rail Cars
- Ethanol Rail Tank Cars

Cargo Tank Market Unit

- Gasoline & Diesel
- Dry Bulk
- Ethanol



2726 Henkle Drive
Lebanon, OH 45036 USA
Telephone: +1 513 696 1500
Fax: +1 513 932 9845
www.opw-es.com



11172 State Highway O
Mineral Point, MO 63660 USA
Telephone: +1 573 438 5000
Fax: +1 573 438 4853
www.suresealinc.com



7733 Gross Point Road
Skokie, IL 60077 USA
Telephone: +1 847 677 0333
Fax: +1 847 677 0138
www.midlandmfg.net



4304 Mattox Road
Kansas City, MO 64150 USA
Telephone: +1 816 741 6600
Fax: +1 816 741 1061
www.civacon.com

OPW FLUID TRANSFER GROUP - SOUTH AMERICA

Rua Manuel Augusto de Alvarenga, 155
São Paulo, São Paulo, Brazil
CEP 04402-050
Telephone: +55 11 5564 6466
Fax: +55 11 5679 7960
www.opwftg.com.br



Roggestraat 38, 2153 GC Nieuw-Vennep,
P.O. Box 32, 2150 AA Nieuw-Vennep
Netherlands
Telephone: +31 252 660 300
Fax: +31 252 687 258
www.opwftg.nl

OPW FLUID TRANSFER DIVISION - INDIA

36 Marol Co-op. Ind. Est. Ltd.
2nd Floor, M.V. Road, Marol
Andheri (E), Mumbai – 400 059
Tel: +91 22 2851 7296, 91 22 2851 7355
Fax: +91 22 2851 7333

OPW FLUID TRANSFER GROUP - ASIA PACIFIC

Telephone: +65 9679 1762

OPW FLUID TRANSFER GROUP - CHINA

Suite 25 B,
Suntime International Mansion
450 Fushan Road,
Shanghai, China 200122
Tel: +011 86 21 5830 7595
Fax: +011 86 21 5830 7535

