



## Precision-Engineered Skid Systems



**Your safety. Our mission.**

**Custody Transfer Packaged Pumping Gas Compression Chemical**



## Our Managing Director, Alec Keeler

Alec Keeler, an expert in best practice with regards to fall prevention and tanker loading in terminals and process plants, is the Managing Director of Carbis Loadtec Group.

With Alec's 40 years of experience and a collective 150 years within the company, Alec and his team certainly know a thing or two about how to load and empty tankers.

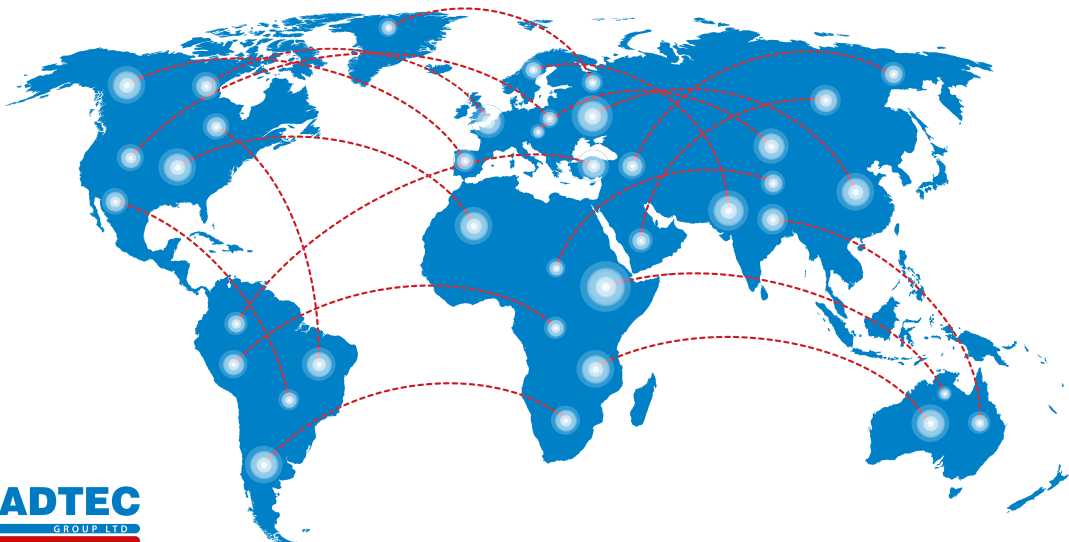
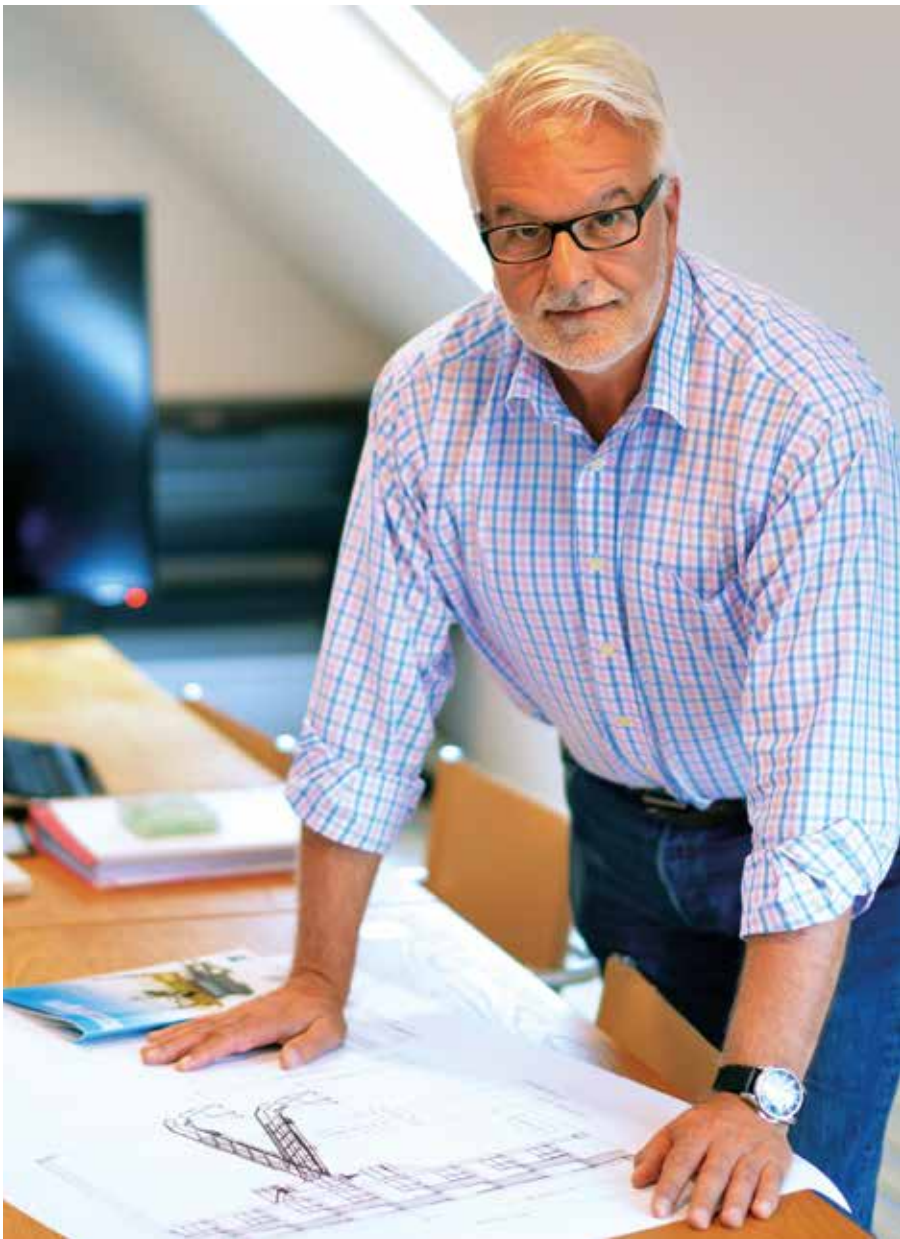
Prior to starting Loadtec in 1996, Alec worked for OPW Engineered Systems and Emco Wheaton, starting as a Sales Engineer and later as Global Marketing Manager. Alec's early career was with Babcock & Wilcox where he trained as a Piping Engineer.

Alec is a keen adventurer and photographer in his free time. He has raised money for charities like British Lung Foundation and Papyrus - prevention of teenage suicide by climbing Mont Blanc and Mount Kilimanjaro. Many of the photographs on the Carbis Loadtec website are courtesy of Alec and he is often seen out and about with his camera on his business trips.

## Global Reach

Carbis Loadtec Ltd has a global reach, providing high-quality loading and access equipment solutions to industries worldwide, ensuring safety and efficiency in fluid transfer operations across diverse markets.

### BEST TECHNOLOGY PROVIDER 2017



## Industries we work in

Carbis Loadtec works in a vast range of industries and below are just some that we are involved in:

- |                      |                 |                    |                    |
|----------------------|-----------------|--------------------|--------------------|
| • Aviation           | • Edible Oils   | • Oil & Gas        | • Rail             |
| • Bitumen            | • Fertilisers   | • Paint            | • Waste solvents   |
| • Bulk Fuels         | • Food/beverage | • Petrochemicals   | • Water            |
| • Cement/Bulk Powder | • LPG           | • Pharmaceutical   | • Whisky           |
| • Chemicals          | • LNG           | • Ports & Harbours | • Renewable Energy |

## Our Customers

Carbis Loadtec services a wide range of customers from multi-national engineering and procurement companies to one-man businesses. We are often involved in providing engineering consultancy at initial concept through to commissioning, although, we are also happy to offer competitive proposals based on third party design. We build long-lasting relationships with our customers who return for further equipment over the years. Here is a list of some customers we are working with or have worked with.

- |                              |                          |                          |                                       |
|------------------------------|--------------------------|--------------------------|---------------------------------------|
| • Accordis                   | • Dantec                 | • Hexion                 | • Nu-Farm                             |
| • Addison Projects           | • Diageo                 | • Highland Malt          | • Oil Pipelines Agency                |
| • ADM                        | • Diversy                | • Highland Distillers    | • Orica                               |
| • Advanced Elastomer Systems | • Dow Chemical           | • Hoyer                  | • PDE                                 |
| • Aesica                     | • Dow Corning            | • Humber Oils            | • Petrochem Carless                   |
| • Atlantic Fuel Supply       | • Dow Agrosciences       | • Huntsman               | • Petrofac                            |
| • Air BP                     | • Dragon Alfa Cement     | • Hydrasun               | • Pfizer                              |
| • Airbus                     | • DSM                    | • Hyundai                | • PML                                 |
| • AKER Solutions             | • Dunlopillo             | • Imerys                 | • Polimeri                            |
| • Akzo Nobel                 | • DuPont                 | • Immingham Storage      | • Proctor & Gamble                    |
| • Albermarle                 | • Dynea                  | • Indorama               | • PTT                                 |
| • Alcan Chemicals            | • Elastogran             | • INEOS                  | • Rhone Poulenc                       |
| • AMEC                       | • Elementis              | • Interserv              | • Rhodia                              |
| • Arabian Amines             | • Eli Lilly              | • Irish Sugar            | • Rio Tinto                           |
| • Arabian Chemical Tankers   | • Ensus                  | • Jacobs Engineering     | • Roche                               |
| • ARCO                       | • Entec                  | • John Dewar             | • Sabic                               |
| • Babcock                    | • Entrepose Group        | • Johnson Matthey        | • Saudi Aramco                        |
| • Bamburi Cement             | • ERIKS                  | • Kaneb                  | • Saudi Ethylene                      |
| • Banner Chemicals           | • Esso Petroleum         | • Karachaganak Petroleum | • SI Group                            |
| • Bassell Polyolefins        | • Exxonmobil             | • Kellogg                | • Shell Oil                           |
| • BASF                       | • Felixstowe Dock        | • Kemira                 | • Schwarz Pharma                      |
| • Bayer                      | • Flexsys                | • Lafarge                | • Simon Storage (now Inter Terminals) |
| • BOC                        | • Fluor                  | • Linde                  | • Solutia                             |
| • Bombay Spirit              | • Foster Wheeler         | • Loch Lomond Distillery | • Swords Laboratories                 |
| • Botlek Tanker Terminal     | • Foynes Engineering     | • Lucite                 | • Syngenta                            |
| • BP Oil                     | • Fuel Supplies          | • Ma'aden Phosphate      | • Tate & Lyle                         |
| • British Sugar              | • Gatwick Airport        | • Masterfoods            | • Tesserlo Chemicals                  |
| • Brunner Mond               | • GB Fuels               | • Merck Sharp & Dohme    | • Total                               |
| • Buckfast Abbey             | • GEA Process Technology | • Michelin               | • Tupras                              |
| • Black & Veatch Pritchard   | • Givaudan               | • Ministry of Defence    | • Unichema                            |
| • Cadbury                    | • Glasgow Airport        | • Monsanto               | • United Distillers                   |
| • Cargill                    | • Glaxosmithkline        | • Motherwell Bridge      | • Univar                              |
| • Castrol                    | • Glen Turner Distillery | • Mott MacDonald         | • United States Air Force             |
| • Chemtura                   | • Galliford Try          | • Mowlem Engineering     | • Valero                              |
| • Chevron                    | • Goro Nickel S.A.S      | • Murco Petroleum        | • Victrex                             |
| • Chivas                     | • Grace                  | • Navigator              | • VOPAK                               |
| • Cognis                     | • Grant & Livingston     | • Neste Oil              |                                       |
| • Corus                      | • Growhow                | • New Britain Oils       |                                       |
| • Costain                    | • Guinness               | • NNPC                   |                                       |
| • Croda                      | • Halliburton            | • Novartis               |                                       |
| • Cytec                      | • Halterman              |                          |                                       |
|                              | • Henkel                 |                          |                                       |

## Custody Transfer

Pages 6-16

- Skid Mounted Loading Systems
- Custody Transfer Metering
- LACT Units
- LPG-LNG Loading / Unloading
- Truck Loading / Unloading
- Railcar Loading / Unloading
- Ethanol / Biofuel Loading
- Portable Transloaders
- Pipeline Metering Systems
- Ship & Barge Loading Metering Skids

## Packaged Pumping

Pages 17-23

- Packaged Pump Skids
- Heat Transfer Skids
- Process Cooling Water
- Booster Skid Systems
- Tepid Water Systems

## Gas Compression

Pages 24-28

- CNG Loading Stations
- Packaged Compressor Systems
- Vapour Recovery Units
- Emergency Response Carts & Skids

## Chemical

Pages 29-34

- Mercaptan Transfer Systems
- Additive Injection Systems
- Chemical Metering Systems
- Chemical Feed Systems
- Chemical Dilution Systems

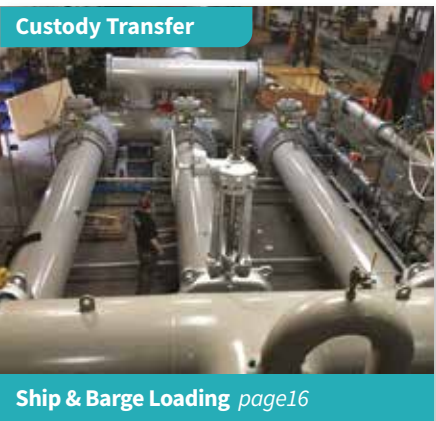
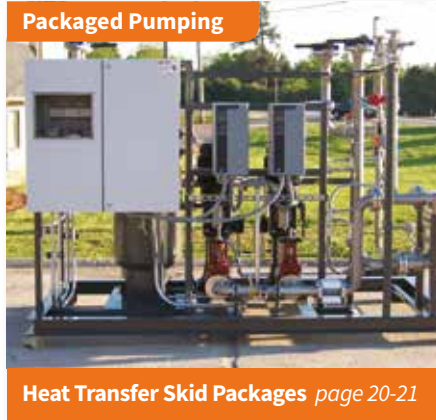
## Advantages of using us

- Full in-house experience. Our mechanical and electrical engineers use the latest 2 and 3D CAD and SolidWorks software to design every system.
- Integrated Process Automation Controls, PLC's and HMI's.
- Turnkey systems provide a single point of contact for your entire project including technical support, operator training, and start up commissioning.
- All systems are FAT (Factory Acceptance Tested) in house and will meet all safety, government and industry regulations.
- Complete set of manuals for every piece of equipment and system.
- Reduced installation and start up time - ready to move product shortly after arriving on site.
- Reduced delivery lead times, project costs, improved accuracy.



# Skid Meter Systems at a Glance

Telephone: +44 (0) 1303 81 3030 / Email: [info@carbisoaltec.com](mailto:info@carbisoaltec.com) / For technical data, please visit [www.carbisoaltec.com](http://www.carbisoaltec.com)





# Custody Transfer Systems

We offer a range of custody transfer metering systems for the petroleum and natural gas terminal loading markets. Our custody transfer systems meet all OSHA, regulatory or industry standards your specific project may require. Systems can be stationary or mobile depending on the site.

From truck and railcar transloading, to Ethanol and pipeline metering systems, we have the expertise to keep your product moving safely and accurately.

## Skid Mounted Loading Systems

Skid Mounted TransLoading Systems can be used in a variety of industries moving almost any kind of fluid product. Crude oil, liquefied natural gas, aviation fuel, and Ethanol are just a few of the products these systems can accurately transload, pump and meter.

## Custody Transfer Systems

Custody Transfer Systems are highly accurate metering systems that transfer petroleum or any other fluid product between two owners. These systems are engineered to maintain extreme accuracy while pumping hundreds of litres of product per minute.

## Lease Automatic Custody Transfer Systems

Lease Automatic Custody Transfer (LACT) describes the process of moving crude oil or other petroleum product from one owner to the next from wellhead to its final destination. LACT units are built with highly accurate components which ensure proper metering of product during mid-stream transfer. Mobile transloading LACT units are available.

## LPG – LNG Loading & Offloading

LPG and LNG Loading & Offloading Systems are used to evacuate or fill tanker trucks or railcars with liquefied petroleum or natural gas products. LPG & LNG loading and transloading skids are fully customizable to fit your specific application, as well as come with integrated Automation Controls.

## Truck Loading / Offloading

Truck Loading and Offloading Systems are used to fill or evacuate any other fluid or gas from a tanker truck. These systems are engineered with operator safety in mind and will meet or exceed all government, safety or industry standards your project may require. They can include railcar transloaders that are stationary or mobile transloaders.

## Railcar Loading / Offloading

Railcar Loading and Offloading Systems are used to transload crude oil, Propane, Butane, Ammonia, Refrigerants gasses, and many other LPG or LNG products from railcar containers. Railcar transloading systems can be Portable Transloading System or a permanent skid mounted solution.

## Ethanol / Biofuel Loading

Ethanol and Biofuel Systems are used to transload tanker trucks or railcars with corn Ethanol or other biofuel products. Loading systems are ready to move product shortly after arriving on site, and come integrated with Automation Controls.

## Portable Transloaders

Portable Transloaders are fully automated mobile trailers that have an attached pump and metering system. Portable Transloading units are a great addition to any terminal or loading facility and can be customised to include Safe Access Gangways.

# Skid Mounted Loading Systems

Telephone: +44 (0) 1303 81 3030 / Email: info@carbisloadtec.com / For technical data, please visit [www.carbisloadtec.com](http://www.carbisloadtec.com)

Carbis Loadtec is a global supplier of skid mounted loading systems for all fluids and gases. Our loading skids are engineered, fabricated, integrated, and tested with the highest quality and safety standards in mind.

Our systems will meet or exceed all government and industry standards your project may require. Loading skids can be quoted in as little as 24-48 hours and are ready to move product shortly after arriving on site.

You'll work directly with our in-house engineers to meet your team's specific application and technical needs. Using the latest 3D modelling software, our engineers will take your ideas and create a custom loading skid solution that meets or exceeds your requirements.

## Skid Mounted Loading Systems

- Diesel & Gasoline Pipeline Truck & Railcar Loading & Blending Systems.
- Fluid Blending and Metering Systems.
- Custody Transfer Systems for Crude Oil, Biofuels, LPG, LNG.
- Proving and Calibration of Metering Systems.
- Control Automation Integration. Such as PLC controls, Custom HMI, and MCC integration.
- Loading or unloading of tanker trucks and railcars.



## Skid Mounted Loading System Components

- Static Ground Monitoring.
- RTD with Thermo-well.
- Pressure Indicator.
- Pump/Compressor.
- Integrated Automation Controls (Batch Controller/PLC / HMI).
- Pressure safety/thermal relief valve.
- Inlet and outlet shutoff valves.
- In-line basket strainer.
- Flow meter approved for custody transfer.
- Double Block and Bleed Valve with Prover Connections.
- Flow Control Valve.
- X-ray testing of welded pipe joints (percentage to meet code or customer specified).
- Industrial quality powder-coated piping and skid frame.



## Additional Components:

- Base frame with flat decking and containment lip.
- Vapour recovery line.
- Temperature transmitter with LCD.
- Overflow protection level switch.
- ESD Valve with actuator.
- Differential pressure switch and transmitter for basket strainer.
- Terminal operator HMI with network switch, wireless communications, printer.
- Densitometer.
- Pressure transmitter with LCD.

## Industry Standards Met:

- Pipe fabrication to ASME Section IX standards B31.1, B31.4
- Pipe fabrication to ASME standards.
- Structural steel designed to AWS standards.
- Pressure vessel ASME standards.





# Custody Transfer Metering

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit www.carbislloadtec.com

Carbis Loadtec engineers, fabricates, and automates custody transfer metering skid systems that provide your team with accurate solutions for your specific oil or gas metering application.

Our custody transfer metering systems are engineered with accuracy and safety in mind and meet all government and industry standards. Our metering skids are fully automated solutions that arrive on site factory tested and ready move product.

Carbis Loadtec takes pride in designing and delivering systems that maintain extreme accuracy in the energy, chemical, and oil and gas industries.



## Industry Standards Met:

- Pipe fabrication to ASME Section IX standards B31.3, B31.4
- Pipe fabrication to ASME standards.
- Structural steel designed to AWS standards.
- Pressure vessel ASME standards.



## Custody Transfer Metering Systems Include:

- Gasoline and Diesel pipeline terminal truck and railcar loading systems.
- Integrated fluid blending and metering skids.
- Custody transfer systems for crude oil, LPG, LNG, and Biofuels.
- Calibration and proving of measuring components.
- Local control truck and railcar loading and unloading.
- Railcar, truck, barge & tank custody transfer systems.
- Fully integrated automation such as: PLC Controls, Custom HMI, Integrated MCC, Flow computer with data acquisition system.
- Manual control simple packaged systems are available when custom automation controls are not needed.



# Lease Automatic Custody Transfer (LACT)

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit www.carbislloadtec.com

Carbis Loadtec is a leading global supplier of LACT Units for the petroleum and crude oil midstream markets. L.A.C.T. stands for Lease Automatic Custody Transfer and refers to the transfer of crude oil or any other petroleum product from one owner to another.

The 'Lease' references the agreement between the two entities. The 'Automatic' aspect refers to the automated nature of the transaction, and 'custody transfer' simply refers to the transport of crude oil or other petrol product via a measurement process that is certified by Weights and Measures.

The process of moving crude oil or petroleum from one owner to the next can take place multiple times between the wellhead and the product's final destination. While the process is simple enough, the custody transfer portion requires accuracy down to the hundredth of a gallon. The larger the discrepancy the larger the loss of revenue becomes.

Correct sizing of the pump is a key consideration in the accuracy and efficiency of the transfer. An undersized pump can slow the transfer process down, while an oversized pump can cause cavitation which could draw in air, creating bubbles within the system, reducing the accuracy of the meter and potentially damaging the pump.

## LACT Unit Major Components:

- Open skid frame with industrial grade powder coating.
- Centrifugal or positive displacement (PD) pump.
- BS&W (Basic Sediment and Water) probe with monitor.
- Back Pressure Valve.
- Inline basket strainer with air eliminator.
- Double Block and Bleed (DB&B) Valve.
- Prover connection lines with isolation valves.
- Pressure Gauges.
- Weights and Balance Approved Meter.
- Electrical Control Panel with Automation / HMI Controls.
- ASME B31.3 pipework with X-Ray weld quality certification.



## LACT Unit Optional Features:

- Emergency Stop Device (ESD).
- High capacity air eliminator;
- Control Panel Overhead Canopy.
- Skid drip pan & drain connection.
- Loading / Unloading vapour recovery lines.
- Fiberglass insulated cold weather enclosure/building.
- Temperature Instrumentation.
- Data Printer.



## Industry Standards Met:

- Pipe fabrication to ASME Section IX standards B31.3, B31.4.
- Pipe fabrication to ASME standards.
- Structural steel designed to AWS standards.
- Pressure vessel ASME standards.





# LPG-LNG Loading / Unloading

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit www.carbislloadtec.com

Carbis Loadtec is a leading global supplier of crude oil LPG-LNG Loading-Unloading skid systems, for trucks and railcars. We provide the highest quality and most accurate custody transfer solutions for midstream oil and gas loading and unloading equipment.

Our truck and railcar LPG-LNG Loading-unloading Skid systems are custom-engineered to fit your application. Your dedicated engineers will work closely with your team to ensure your systems are designed and fabricated to perform at peak efficiency and help cut operational costs.

Our mechanical engineers use the latest technologies, including SolidWorks 3D modelling and AutoCAD, to bring your systems to life before production. All pipe work is welded to ASME Section IX quality standards and X-ray tested for integrity. All LPG-LNG loading and offloading systems are factory-tested and quality-approved before shipment.

## LPG-LNG Loading-Unloading Skid Applications:

- Loading or Unloading of Tanker Trucks and Railcars.
- LNG Pipeline Terminal Truck Loading and Unloading Skids.
- Blending and Metering Skid Systems.
- Multi-Station Loading and Unloading Systems.
- Proving and Calibration of Metering Skid Systems.



## LPG-LNG Loading-Unloading Skid Components:

- Industrial powder-coated piping and frame base.
- Static Ground Monitoring.
- RTD with Thermo-well.
- Basket in-line strainer with pressure differential indication.
- Custody Transfer Flow Meter.
- Meets all government safety and regulatory standards and certifications.
- Flow Control Valve.
- Integrated Automation Controls.
- Fully Customized HMI (human-machine interface) controls.
- Pressure Safety Relief Valve.
- Pressure indicator.
- Drain connections with manual ball valves.



## LPG-LNG Loading-Unloading Skid Optional Features:

- Loading Arm with Safety loading Gangway.
- Vapour recovery lines.
- Overflow monitoring and level switch.
- Densitometer.
- Non-slip skid frame and plate decking coating.
- Prover connections.
- Double Block and Bleed (DB&B) valve.
- Push button actuated ESD (emergency stop device) valve.
- Pressure Transmitter with LCD Display.
- Extended Equipment Warranties.
- Start-up/Commissioning.
- Temperature Transmitter with LCD Display.

## LPG-LNG Loading-Unloading Industry Standards:

- Pipe fabrication to ASME Section IX standards B31.3, B31.4.
- Pipe fabrication to ASME standards.
- Structural steel designed to AWS standards.
- Pressure vessel ASME standards.

# Truck Loading / Unloading

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit www.carbislloadtec.com

Carbis Loadtec is a leading global supplier of tanker truck Loading-Unloading skid systems. It provides packaged solutions for tanker truck loading-offloading for petroleum, hydrocarbons, chemicals, and other fluids.

Our tanker truck loading-unloading skids are engineered with safety and accuracy in mind and will meet all government and industry standards such as API, AWS, ASME, NEC, and UL.

## Truck Loading-Offloading Skid Applications:

- LPG (Liquefied Petroleum Gas).
- Sulfuric Acid.
- Crude Oil.
- LNG (Liquefied Natural Gas).
- Diesel.
- Aviation and Jet Fuels.
- High-Concentrate Hydrogen Peroxide.

All tanker truck loading and offloading skid systems are fully customisable to meet your specific application or needs. Truck loading systems are designed and fabricated in-house with the latest 3D modelling software.

Our electrical engineers design and manufacture the latest plant automation, touch-screen HMI, and PLC controls in our state-of-the-art UL508-A electrical engineering panel shop.



## Truck Loading-Offloading Skids Industry Standards:

- Pipe fabrication to ASME Section IX standards.
- Structural steel designed to AWS standards.
- Pressure Vessel Fabrication to Section VIII Standards.





# Railcar Loading / Unloading

Telephone: +44 (0) 1303 81 3030 / Email: info@carbisloadtec.com / For technical data, please visit www.carbisloadtec.com

Carbis Loadtec has extensive experience in engineering and fabricating railcar loading-offloading skid systems for a variety of liquefied gas applications, including Propane, Crude Oil, CO<sub>2</sub>, Butane, Ammonia, Isobutylene, Propylene, Chlorine, and Refrigerant Gases such as R134A and R410A.

There are 3 common types of applications of railcar loading-offloading systems (or Truck Loading-Offloading) for terminal unloading. Typically, in the case of products like Ethanol and other Biofuels, the product is delivered by truck, railcar, or barge and is offloaded into storage. Metering systems detect air and other abnormalities that can affect an accurate reading.

We have provided fully integrated railcar loading-offloading systems designed for safe material handling at large rail terminal applications where several railcar-unloading spots are utilized and also for smaller single-spot compressor systems for one or two car sites.



Carbis Loadtec has the expertise to properly size compressors for your application and to provide the engineering, manufacturing, and automation integration needed to ensure that the system design coordinates with your terminal's operational needs.



Railcar loading-offloading systems bring many benefits to a facility or project. They ensure highly accurate metering and measuring using quality pumps or compressors, filters, valves, flow meters and grounding units. These systems are often used with hazardous chemicals to ensure proper and safe handling.

Railcar loading-offloading systems are a great way to keep employees safe. The protection provided allows for a greater range of products to be handled, such as caustic, biodiesel, and ethanol.

Railcar loading-offloading skids can be designed per customer specifications and will meet all OSHA, government and industry standards. All systems are fully tested and must pass our quality assurance and factory testing before shipment. Clients have the option of visiting our facility to witness all testing before shipment.

Railcar loading-offloading systems are fully customisable to meet the needs of your specific project, facility or terminal configuration. Railcar loading-offloading systems are a great addition to terminals and can improve accuracy and efficiency when loading / offloading products.

## Railcar loading-offloading configurations:

- Top and Bottom Loading Packages.
- Multi-Station Loading and Unloading.
- Blending, Injection, Metering Systems.
- Custody Transfer Skids for LPG, Crude Oil, CO<sub>2</sub>, and Biofuels.
- Tanker Truck Loading and Unloading for Gasoline and Diesel.
- Optional Integration with current Automation System / Controls.



# Ethanol / Biofuel Loading

Telephone: +44 (0) 1303 81 3030 / Email: info@carbisloadtec.com / For technical data, please visit www.carbisloadtec.com

Carbis Loadtec is a leading supplier of Ethanol-BioFuel Loading-Unloading systems for tanker truck or railcar. Our Ethanol-BioFuel Loading-Offloading systems are fully automated and engineered with the highest quality and safety standards in mind.

We carry 'plug and play' Ethanol-BioFuel Loading-Unloading systems that come with standard components, as well as custom systems that can be quoted in as little as 24-48 hours and delivered ready to move product when arriving on site.

Our Ethanol-BioFuel Loading-Unloading systems are built for extreme accuracy and are engineered to save you time and money. Ethanol-BioFuel Loading-Unloading are cost-effective solutions that will help your team meet or exceed their truck and railcar loading / offloading needs.

## Ethanol-BioFuel Loading-Offloading Applications:

- Ethanol / Biofuel Truck Loading / Offloading.
- Ethanol / Biofuel Railcar Loading / Offloading.
- Corn Ethanol, Propanol, Butanol.
- Biofuel (Bio-ethanol, Bio-diesel).



## Ethanol-BioFuel Loading-Offloading Components:

- Static Ground Monitoring.
- RTD with Thermo-well.
- Pressure Indicator.
- Integrated Automation Controls (PLC / HMI).
- X-Ray testing of welded pipe joints (percentage to meet code or customer specified).
- Pressure safety/thermal relief valve.
- In and out manual gate valves.
- Basket in-line strainer with pressure differential indicator.
- Flow meter approved for custody transfer.
- Industrial quality powder coated piping and skid frame.

## Ethanol-BioFuel Loading-Offloading Additional Components:

- Base frame with flat decking and containment lip.
- Double block and bleed valves with isolation gate valves.
- Vapour recovery line.
- Temperature transmitter with LCD.
- Overflow protection level switch.
- ESD Valve with actuator.
- Differential pressure switch and transmitter for basket strainer.
- Terminal operator HMI with network switch, wireless communications and printer.
- Densitometer.
- Pressure transmitter with LCD.





# Portable Transloaders

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit www.carbislloadtec.com

Portable truck and railcar transloaders for Propane, Ethanol, Crude Oil, Aviation fuel, LNG, LPG, and other refined petroleum products. Our portable railcar transloaders are fully automated and engineered with the highest quality standards and safety in mind.

Portable truck and railcar transloaders are built for extreme accuracy and safety and are engineered to save time and money. Mobile transloaders are cost-effective solutions to help your team meet or exceed their truck and railcar transloading needs quickly and affordably.

## Portable Transloader Applications:

- Tanker Truck Transloading.
- Railcar Transloading.
- Corn Ethanol, Propanol, Butanol Transloading.
- Biofuel (Bio-ethanol, Bio-diesel) Transloading.
- Refined Petroleum Products Transloading.
- Aviation and Jet Fuels Transloading.



## Portable Transloader Features:

- OSHA-compliant toe-board, handrail and mid-rail.
- Single or double configuration.
- Self-levelling stairs.
- Non-slip spray coating.
- Trailer Packages.
- Loading arms.
- Hose handler boom arm.
- Safety enclosure for safe operator.
- Touch screen HMI controls.



## Portable Transloader Components:

- Base frame with flat decking and containment lip.
- Double block and bleed valves with isolation gate valves.
- Vapour recovery line.
- Temperature transmitter with LCD.
- Overflow protection level switch.
- ESD Valve with actuator.
- Differential pressure switch and transmitter for basket strainer.
- Terminal operator HMI with network switch, wireless communications and printer.
- Densitometer.
- Pressure transmitter with LCD.

# Pipeline Metering Skids

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit www.carbislloadtec.com

With many pipelines being installed worldwide, the need for delivery and receipt metering stations is on the increase. Applications range from crude oil and condensates to butane and refined products. Whatever the application, Carbis Loadtec can help design, fabricate, and automate a solution to fit your specific needs in any size and flow rate required.

The core of the system is the meter itself. Many measurement professionals have their preferred technologies, which consist of Coriolis, turbine, and ultrasonic, but any meter can be incorporated into the design. Some skid designs will use two meters, with one acting as a “check” meter to ensure meter accuracy.



Fully integrated meter skids will include the necessary instrumentation such as pressure and temperature transmitters and densitometers as well as motor operated valves and PSV's. Depending on the product, automated liquid sampler systems or analyser systems to measure gas composition are typically included. A flow computer along with all electrical wiring and junction boxes will be included as well a double block and bleed valve with prover connections for meter proving. Some meter skids will include compact provers as part of the design.

Skid frames can include spill pans, slip resistant grating walk surface with some requiring platforms with handrail and stairs on the perimeter of the skid for safe access when skids are located above grade that is not level. All meter skids are fully tested prior to shipment ensuring the skid arrives on site ready to plug/play, speeding up the installation time and allowing you to start measuring products quickly.



# Ship & Barge Loading Metering Skids

Telephone: +44 (0) 1303 81 3030 / Email: info@carbisloadtec.com / For technical data, please visit [www.carbisloadtec.com](http://www.carbisloadtec.com)

With many products being loaded and unloaded by ship and barge, metering stations are necessary to ensure the significant volumes of products are counted accurately to the risk of substantial financial losses.

Applications range from crude oil, feedstocks, and refined products to propane and a variety of chemical products. Whatever the application, Carbis Loadtec can help design, fabricate, and automate a solution to fit your specific needs in any size and flow rate required.

The core of the system is the meter itself. Many measurement professionals have their preferred technologies, which consist of Coriolis, turbine, and ultrasonic, but any meter can be incorporated into the design. Some skid designs will use two meters, with one acting as a “check” meter to ensure meter accuracy.

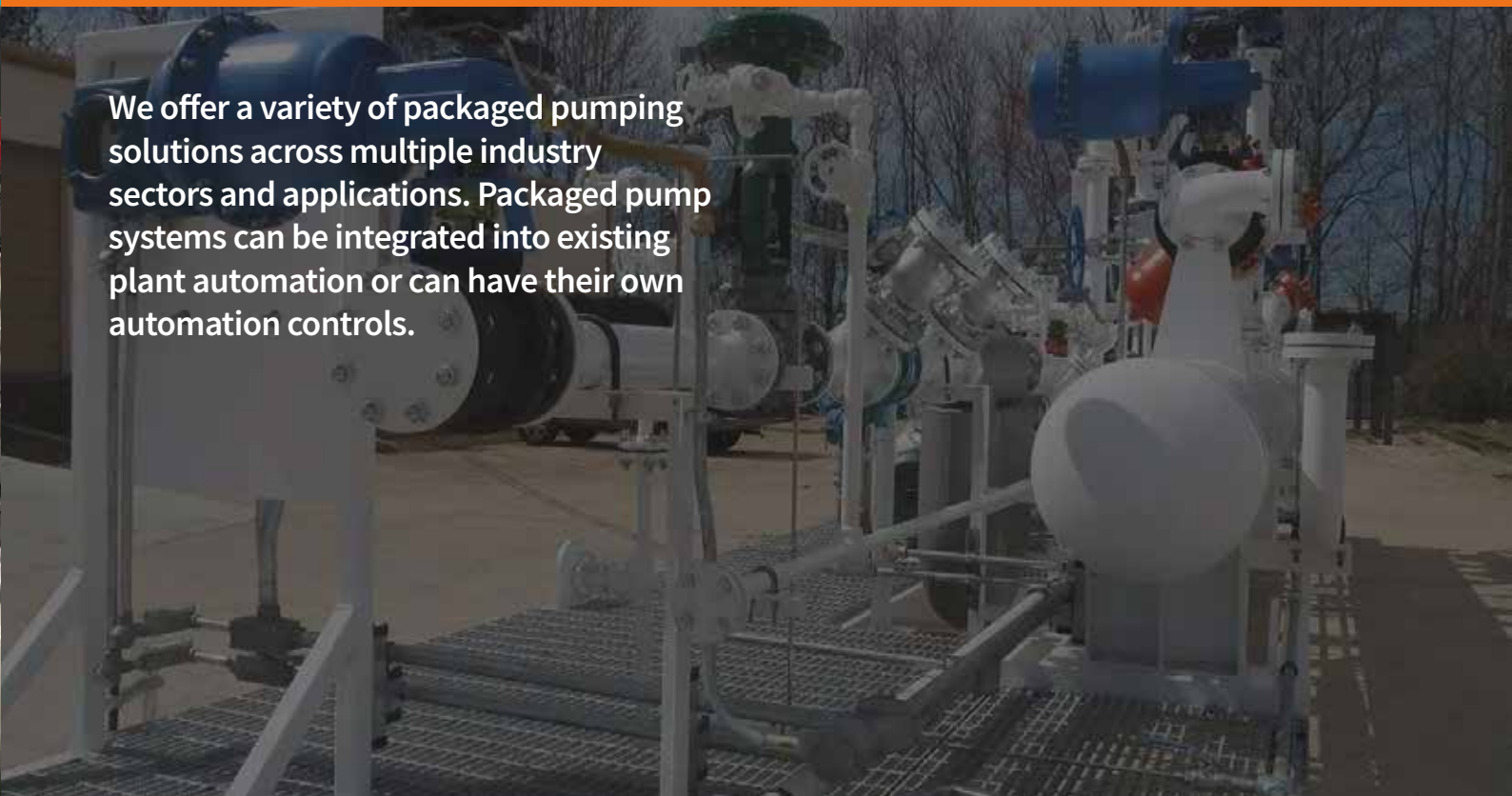


Fully integrated meter skids will include the necessary instrumentation such as pressure and temperature transmitters and densitometers as well as motor operated valves and PSV's. Depending on the product, automated liquid sampler systems or analyser systems to measure gas composition are typically included. A flow computer along with all electrical wiring and junction boxes will be included as well as a double block and bleed valve with prover connections for meter proving. Some meter skids will include compact provers as part of the design, which can also be placed on the dock or jetty.

Skid frames can include spill pans, slip resistant grating walk surface with some requiring platforms with handrail and stairs on the perimeter of the skid for safe access when skids are located above grade that is not level. All meter skids are fully tested prior to shipment, ensuring the skid arrives on site ready to plug/play, speeding up the installation time and allowing you to start measuring products quickly.

# Packaged Pumping

We offer a variety of packaged pumping solutions across multiple industry sectors and applications. Packaged pump systems can be integrated into existing plant automation or can have their own automation controls.



## Packaged Pump Skids

Packaged Pump Skids are customisable pumping systems that are tailored to your specific application or need. From water and wastewater to pulp and paper and chemicals, packaged pump skids will keep your product moving with accuracy and efficiency.

## Heat Exchanger Transfer Skids

Heat Exchanger Skids are used in many manufacturing facilities to separate process fluid from cooling system fluid. Heat exchanger systems are fully customisable and come complete with HMI or integrated automation controls.

## Process Cooling Water Systems

Process Water Systems are skid-mounted pumps that are used to circulate cooling water at a set temperature and pressure. This enables water-cooled manufacturing machines to operate more efficiently and stable during manufacturing.

## Booster Skid Systems

Booster Skid Systems helps companies solve process issues while improving efficiency. We work with industry leaders in HVAC, Hydronics, and boiler feed systems to bring you the best in skid-mounted booster systems.

## Tepid Water Systems

Tepid Water Systems are used to supply clean warm water throughout a plant for safety showers and eye wash stations. Potable water is brought into the skid and stored in a stainless steel vessel equipped with a steam heat exchanger.



# Packaged Pump Skid Systems

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit www.carbislloadtec.com

Carbis Loadtec is a leading manufacturer of pump skid systems across multiple industry sectors. Pump skid systems come complete with PLC automation and touch-screen HMI controls and are ready to move fluid or product when they arrive on site.

Our engineers work closely with your team to design a custom pump skid system using the latest 3D modelling software. Accuracy and safety are at the forefront of our engineering, and our team will ensure your pump skids meet or exceed any technical, OSHA, or government regulations.

## Common Pump Skid Applications:

### Packaged Pump Skids

Packaged pump skids are a custom solution for your fluid handling needs. Bring us your ideas or specifications, and our in-house mechanical and electrical engineers will help you find the best solution for your project. We have years of experience creating custom pump skids that are fully automated with PLC and touch-screen controls.

### Water and Wastewater

We're leaders in providing packaged skid-mounted pump systems to the water and wastewater industries. Examples include chemical metering packages that can handle your specific technical and regulatory requirements. We're experienced in pH controls, conductivity, polymers, and water analysis.



### Chemical Metering Skids

We engineer and manufacture safe and accurate blending, mixing, injection packages for liquids and chemicals. Common applications include: mixing systems, blending systems, additive injection, and accurate sampling systems.

### Chemical Feed Skid Systems

Carbis Loadtec offers many different configurations of packaged Chemical Feed systems. We can take your ideas or needs and create a 3D model of a system that will meet or exceed your specifications. We will then fabricate, automate, test, and deliver your systems, ready to move product upon arrival.



### Pulp and Paper

We have years of experience and many happy customers in the pulp and paper industry. We've provided all kinds of skid-mounted pump systems for all stages of pulp and paper production, including defamers, polymer skid systems, and chemical metering and injection.

## Common Pump Skid Components Include:

- Industrial powder coated ASME fabricated steel skid frame.
- Piping – client provided, or designed by Carbisl Loadtec (steel or PVC).
- Pumps specific to client GPM needs.
- Manual / actuated ball/ gate valves.
- Automation controls / HMI (can be integrated with current infrastructure).
- Complete skid user manual in physical and PDF format.



# Process Cooling Water Systems

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit www.carbislloadtec.com

Carbis Loadtec is a leading manufacturer of (PCW) Process Chilled Water Systems for multiple industries. (PCW) packages are skid-mounted systems that circulate process or cooling water at a specific temperature and pressure. This enables water cooled machines and equipment to operate more efficiently and stable during use.

Our process water systems filter all cooling water before recirculation as well as use heat exchangers to pull process heat away from the system. Our PCW systems are engineered with safety in mind and meet all OSHA, government and industry standards.



## Process Cooling Water Skid Components:

- Industrial powder coated ASME fabricated steel skid frame.
- Piping – client provided, or designed by Carbisl Loadtec (steel or PVC).
- Pumps specific to client GPM needs.
- Manual / actuated ball/ gate valves.
- Automation controls / HMI (can be integrated with current infrastructure).
- Complete skid user manual in physical and PDF format.



## Process Cooling Water Systems Applications:

- Furnace Cooling Water Systems.
- Glycol Cooling Systems.
- Deionized Process Cooling Water (Open & Closed).
- Closed Loop Cooling Water.
- Water Source Heat Systems.

## Industry Standards Met:

- Pipe fabrication to ASME B31.1 and B31.1 standards.
- Structural steel designed to AWS standards.
- Pressure vessel ASME standards.
- SolidWorks 3D modelling.
- AutoCad Mechanical & Electrical design.





# Heat Transfer Skid Packages

Telephone: +44 (0) 1303 81 3030 / Email: info@carbisloadtec.com / For technical data, please visit www.carbisloadtec.com

Carbis Loadtec is a leading global supplier of fully automated heat exchanger skid packages. Our heat exchanger skids are fully automated with PLC and touch-screen HMI controls and engineered with the highest quality and safety standards in mind.

Packaged heat exchanger skids are used to isolate process fluid from cooling fluid. This is used in many manufacturing applications because the process fluid is generally contaminated at a higher or lower temperature and is not compatible with the cooling fluid or equipment.

Carbis Loadtec offers fully customisable solutions for this challenging process. Our heat exchanger skids are engineered with safety in mind, and all systems meet or exceed all OSHA, government, and industry standards.

## Heat exchangers

Heat exchangers are used in applications where heat must be transferred from one medium to another. This could mean heat added to a process medium (heating) or heat removed from a process medium (cooling). They're used to heat/cool media without contaminating it. This article will cover three types of heat exchangers often found in industrial applications, and we'll discuss the typical applications they're used in and the pros and cons of each.



## Air Cooled Heat Exchangers

An air-cooled heat exchanger works much like the radiator in your car. The process media travels back and forth through a run of tubes with fins on the tube's exterior. A fan, typically operated by an electric motor, blows air across these finned tubes. The air moving across the tubes produces a cooling effect and cools the media flowing through the tubes. One of the benefits of this setup is its simplistic design, as it doesn't need another hot or cold media present to work as other heat exchangers do. The main con to this style is that the possible cooling amount depends on the environmental conditions in which the exchanger sits.

Let's say you have hot water flowing through the tubes at 32°C and want to cool it down to 26°C. To do this effectively, the ambient air around the heat exchanger would typically need to be a few degrees cooler than 26°C. If you're in an environment where the ambient air is warmer than your target cooling temperature, this type of heat exchanger should not be used.

## Plate and Frame Heat Exchangers

Heat exchangers are used in applications where heat must be transferred from one medium to another. This could mean heat added to a process medium (heating) or heat removed from a process medium (cooling). They're used to heat/cool media without contaminating it. This article will cover three types of heat exchangers often found in industrial applications, and we'll discuss the typical applications they're used in and the pros and cons of each.



# Heat Transfer Skid Packages

Telephone: +44 (0) 1303 81 3030 / Email: info@carbisloadtec.com / For technical data, please visit www.carbisloadtec.com

## Plate and Frame Heat Exchangers

A plate and frame heat exchanger uses a series of plates and gaskets sandwiched together to allow two different media to pass by one another via a series of raceways throughout the plates. The plates are typically thin, and the number of plates needed depends on the flow rates of both the process media and the heating/cooling media. This style of heat exchanger is often used in cooling applications where the process media is being cooled by a chilled media, which is typically a mix of water and glycol.

A good example is a facility with machinery that needs to keep cool. The process media will flow through the machinery and then back through the heat exchanger in a closed-loop setup. On the other side of the heat exchanger, chilled media will flow at a typically much cooler temperature. While the process media remains at a constant flow rate, the chilled media flow rate varies based on the demand required. This is usually accomplished with a flow control valve on the heat exchanger's exiting port for the chilled media. A combination of pumps, temperature instrumentation, flow control valve, and designated set point work together to chill the process media to the desired temp automatically. These tend to be very efficient, but it does require additional media, unlike the air-cooled heat exchanger.



## Heat Transfer Skid Options and Features:

- Solid steel skid fabricated to ASME standards.
- Pressure Transducers.
- Temperature Sensors.
- Temperature Control Valves (electric / air actuated).
- Programmable Controller (for temperature controls).
- Electrical Panel made in-house at our automation facility.
- Control Bypass Valve.
- 3D modelling drawings of systems.
- Custom Paint or Finishing.
- Complete operation and owner's manual.
- Start-up commissioning.
- Extended Parts and Labor Warranty.

## Heat Transfer Skid Standards Met:

- Pipe fabrication to ASME B31 standards.
- Structural steel designed to AWS standards.
- Pressure vessel ASME standards.
- SolidWorks 3D modelling.
- AutoCad Mechanical & Electrical design.





# Booster Skid Systems

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit www.carbislloadtec.com

Carbis Loadtec engineers fabricate and automate skid-mounted packaged booster skid systems for various industries. Industrial Booster Skid Packages are used to help companies solve process issues while improving efficiency.

Creating an efficient custom skid solution eliminates the need for re-work or additional systems. We have worked with some of the industry leaders in HVAC, hydronics, and boiler feed systems, as well as the design and engineering of multiple water booster skid solutions.

Our state-of-the-art design and manufacturing allow you to be consistent with regulatory guidelines and safety regulations.

## Heat exchangers

- Water and Wastewater Filtration.
- Water and Wastewater Clarifying Systems.
- Chemical Metering Systems.
- Liquid Movement to or from Storage / Settling Tanks.
- R/O (Reverse Osmosis) Systems.
- Boiler Feed Systems.
- Potable Water Booster Pump Systems.
- Process Cooling Systems.



## Booster Skid Package Components:

- Industrial grade powder coated steel frame.
- Pump with GPM specific to application.
- Manual or actuated gate valves.
- Integrated automation controls.

## Industry Standards Met:

- Pipe fabrication to ASME B31.1 and B31.1 standards.
- Structural steel designed to AWS standards.
- Pressure vessel ASME standards.
- SolidWorks 3D modeling.
- AutoCad Mechanical & Electrical design.

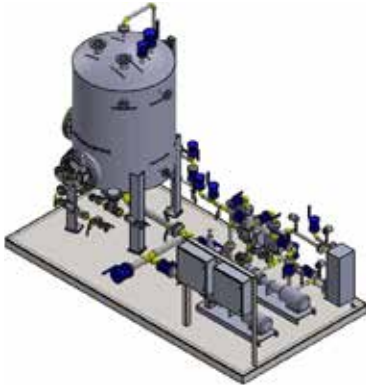


# Tepid Water Systems

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit www.carbislloadtec.com

A Tepid water system is used to supply clean warm water throughout a plant for safety showers and eye wash stations. Potable water is brought into the skid and stored in a stainless steel vessel equipped with a steam heat exchanger.

The water is continuously circulated throughout the plant using two centrifugal pumps and a UV steriliser prevents the growth of bacterial in the water. The skids can be sized to accommodate most any demand.



## Is your sites Emergency Eyewash and Shower Equipment in compliance with the latest ANSI Z358.1 standards?

Many sites are not compliant with the revised 2014 standard stating that water temperature should be tepid and delivered at 60F to 100F to the emergency shower and eye wash equipment. In order to comply, sites must install updated equipment. This is where it makes sense to select a partner who can help design a system to meet your site-specific needs and your local requirements.



## Tepid water equipment

Tepid water equipment must be designed to deliver water at 3.7 lpm for 15 minutes at each shower/eye wash station. Typical tepid water skids include a stainless tank, pumps, strainers, pressure relief valves, tank level and pressure switches, mixing valve, immersion heater, expansion tank, and control panel. Options can include freeze protection, UV treatment, and steam heating options. Tanks and pumps are designed according to how many shower/eye wash stations are on a circuit and based on how many showers could be activated at the same time and include a study of the piping system length, elevations, and pressure drop for the circuit. Systems should be corrosion-resistant, with stainless steel being typical.



## Having emergency showers and eyewash stations is not enough.

In addition to training on their use, per ANSI Z358.1-2014, emergency showers and eyewashes are to be activated weekly with a more thorough evaluation on an annual basis. With some sites having hundreds of shower and eyewash stations, many will use a third-party service. Still, it can make sense to have multiple site personnel trained to do weekly checks so testing can be done quickly, make facility maps, and hold recurring training classes.

To ensure your site fully complies with various codes, standards, and best practices, select a partner who can go beyond just providing part of the puzzle.

## Tepid Water System Components:

- Custom Stainless Steel Tepid Water Storage Tank.
- KAM Bayonet Heat Exchanger.
- Flo-Tite Stainless Steel Ball Valves.
- Two (2) Flowserve D814 Centrifugal Pumps w/IEEE-841 Motors.
- Pure-Aqua UV Sterilizer.
- Fisher Flow Control Valve.
- Crosby Pressure Relief Valves.
- ABB K-Tek Gauge Glass.
- Wika Pressure and Temperature Gauges.
- United Electric RTDs.
- Vegaflex Level Transmitter.
- Viega Pro-Press SS piping & Fittings.
- Titan SS Y-Strainers.
- 304 Stainless Steel Frame.
- Nema 4x SS Local Control Panel.

## Packaged Skid Systems to Deliver Optimum Water Temperature

- Custom Stainless Steel Tepid Water Storage Tank.
- KAM Bayonet Heat Exchanger.
- Flo-Tite Stainless Steel Ball Valves.
- Two (2) Flowserve D814 Centrifugal Pumps w/IEEE-841 Motors.
- Pure-Aqua UV Sterilizer.
- Fisher Flow Control Valve.
- Crosby Pressure Relief Valves.
- ABB K-Tek Gauge Glass.
- Wika Pressure and Temperature Gauges.
- United Electric RTDs.
- Vegaflex Level Transmitter.
- Viega Pro-Press SS piping & Fittings.
- Titan SS Y-Strainers.
- 304 Stainless Steel Frame.
- Nema 4x SS Local Control Panel.



# Gas Compression

At Carbis Loadtec, we offer a wide range of industrial gas compressor systems tailored to meet the specific needs of various industries. Our solutions are designed for optimal performance, reliability, and energy efficiency, ensuring that your operations run smoothly and cost-effectively. Whether you require custom-built systems or standard configurations, our team is committed to delivering high-quality products that adhere to the latest industry standards.

## CNG Compressor Packages

Natural Gas is becoming increasingly popular as a motor vehicle fuel. It is clean-burning and very abundant, making it an ideal low-cost alternative fuel to diesel and gasoline. As the demand for natural gas-fueled vehicles increases, so does the need for additional infrastructure to support this demand.

## Packaged Compressor Systems

Carbis Loadtec is a leading manufacturer of industrial gas packaged compressor systems. We engineer and manufacture your compressor skid packages with the latest 3D modeling software, as well as meet government standards.

## Vapour Recovery Units (VRU)

Carbis Loadtec is a leading manufacturer of Vapour Recovery Units or (VRU). VRUs are used in recovering vapours from gasoline, natural gas, or other biofuels.

## Emergency Response Carts & Skids

Carbis Loadtec has developed rugged, mobile pumping and compression solutions for Emergency Response teams. Our systems include powder coated carbon steel frames and cages, large pneumatic, all-terrain tires, Char-Lynn or Parker hydraulic motors and a smooth steering system that allows for the carts to be either hand pulled or towed behind an ATV or tractor.

# CNG Compressor Packages

Telephone: +44 (0) 1303 81 3030 / Email: info@carbisloadtec.com / For technical data, please visit [www.carbisloadtec.com](http://www.carbisloadtec.com)

Natural Gas is becoming increasingly popular as a motor vehicle fuel. It is clean-burning and very abundant, making it an ideal low-cost alternative to diesel and gasoline. As the demand for natural gas-fuelled vehicles increases, so does the need for additional infrastructure to support this demand.

A growing number of companies specialise in designing and installing compressed natural gas (CNG) fuelling stations, and all of these stations have one thing in common: the need for a CNG compressor package.



Carbis Loadtec has the design and fabrication experience to provide CNG compressor skids up to 250HP for pressure up to 350 bar. Our design and engineering team will help you select and size a suitable gas compressor to meet the demand of your specific application. Systems are designed with either electric motor or natural gas engine drivers and can include complete enclosures to protect the system from the elements and provide sound deadening where needed.

Our CNG compressor packages include a local PLC control panel and can be up-fitted with an integrated HMI as well as wireless connectivity for troubleshooting. Our electrical design and engineering team can assist with seamlessly integrating the compressor skid into new or existing CNG fueling systems.



# Packaged Compressor Systems

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit www.carbislloadtec.com

Carbis Loadtec is a leading manufacturer of industrial gas-packaged compressor systems. We engineer and manufacture your compressor skid packages with the latest 3D modelling software, and we meet government standards.

## Packaged Compressor Systems Include:

- Lubricated and Oil-Free Reciprocating.
- Sliding vane pumps.
- Side-channel pumps.
- Engine-generator sets.

## Packaged Compressor System Applications:

- Natural Gas Compression.
- Natural Gas Compressor Skids.
- CNG Loading Stations.
- CNG Storage Tanks.
- Tanker Truck Loading / Unloading.
- Railcar Loading / Unloading.
- Fuel Gas Boosting.
- Natural Gas Vapour Recovery.
- Liquefied Gas Transfer.
- Air Boosting Compression.
- Gas Gathering.



## Packaged Compressor Systems Include:

- Single-stage compressor package with a hydraulic drive. This system is used for tanker truck or railcar evacuation in maintenance or emergency situations.
- Single-stage compressor package engineered for liquefied gas transfer applications.
- Single-stage compressor package used for LPG, liquid gas transfer, and vapour recovery applications.
- Single-stage compressor packages used for liquefied gas transfer using Propylene, Vinyl Chloride, Methyl Chloride and Butadiene.
- Hydraulically driven, single-stage flanged compressor package designed for emergency response situations.
- Two-stage compressor package used for deep evacuation. Can also be used for other products.
- Custom-engineered systems designed by our in-house mechanical engineers using the latest SolidWorks 3D software.



## Industry Standards Met:

- API 610 ISO 13709.
- API 617 ISO 10439.
- API 618 ISO 13707.
- API 11P ISO 13631.
- ASME U2 Div. 1.
- ASME U2 Div. 2.
- IEC / ATEX.
- AP619.
- AP676.
- ASME.
- GOST.
- ANSI.
- CRN.
- CSA.



# Vapour Recovery Units (VRU)

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit www.carbislloadtec.com

Carbis Loadtec is a leading manufacturer of Vapour Recovery Units or (VRU). VRUs are used in recovering vapours from gasoline, natural gas or other biofuels.

## Packaged Compressor Systems Include:

- Reduce harmful vapours into the atmosphere.
- Meet EPA emission standards.
- Meet Clean Air Act standards.
- Cut operational costs.
- Reclaim lost profit dollars.

Recovering gas vapours from tank batteries is not a new application for most owners and operators of oil and gas production companies and crude oil storage tank facilities. However, questions have been raised about the economic feasibility of installing Vapour Recovery Units (VRUs) on tank batteries.

In recent times, increasing environmental regulations have impacted the requirements to recover these Hazardous Air Pollutants (HAPs). Additionally, through more efficient VRU designs, there can be a positive return on investment.

## Vapour Recovery Units Provide:

- On-site fuel gas – reducing the need to purchase additional resources.
- Revenue from gas sold to the pipelines.
- Valuable LNG vapours that can be offered to gas processing plants.



## Vapour Recovery Unit Components:

- Industrial Powder Coated Skid Frame.
- Oil-Free Reciprocating Compressor.
- ASME Coded Knock-Out Vessel.
- Suitably Rated Local Control Panel.
- Pressure & Temperature Switches and/or transmitters.
- Flanged Pipe-Away Safety Relief Valves.
- Welded interconnecting piping with ANSI class flanged process connections.

## Mobile Propane Vapour Recovery Unit

The Omaha Metropolitan Utilities District uses this system to evacuate propane vapours from their cavern storage. The system includes a custom built trailer, Blackmer NHG1013 6x6 reciprocating compressor with a 60HP motor and Class 1, Div. II rated VFD for capacity control. Additional local controls include a Nema 4x SS control panel with a Schneider Electric PLC and 10.5" Full Colour HMI, Rosemount pressure and temperature indicating transmitters and Newson Gale Static Grounding & Bonding system – all Class 1, Division II rated.



# Emergency Response Carts & Skids

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit [www.carbislloadtec.com](http://www.carbislloadtec.com)

Carbis Loadtec has developed rugged, mobile pumping and compression solutions for Emergency Response teams. Our systems include powder-coated carbon steel frames and cages, large pneumatic, all-terrain tyres, Char-Lynn or Parker hydraulic motors and a smooth steering system that allows the carts to be hand-pulled or towed behind an ATV or tractor.



## Why choose an Emergency Response Cart or Skid from Carbisl Loadtec?

Our carts are designed based on years of worldwide feedback from emergency response professionals. With that insight, we have ensured that details that provide more efficient use in the field and more robust equipment are incorporated for reliability and longevity.

## What pump options are used on our response carts and skids?

Carbis Loadtec has partnered with Blackmer, a leading provider of sliding vane pumps and industrial gas compressors, to offer the best possible pumping and compression technology for safe and efficient transfers. Blackmer offers pump solutions for most products, including Propane, Butane, Ammonia, Diesel, Gasoline, Ethanol, CO<sub>2</sub>, Refrigerants and Chlorine. The most common pump lines used by emergency response teams are the LGL, GX, X, NP and all stainless steel STX and SNP lines.



## What options are available for response cart and skid compressors?

Blackmer's HD-Series of Industrial Gas Compressors offers the most cutting-edge sealing technology on the market and the most robust frame available. Their capacity and material offerings allow us to custom configure a compressor that will handle LPG, Ammonia and Chlorine applications safely and efficiently. In addition to offering Blackmer's full line of compression solutions, Carbisl Loadtec also offers the Corken line of oil-free industrial gas compressors, which gives us the most comprehensive compressor offering in the industry.



## What about a custom pump or compressor solution?

In addition to our standard cart and skid offerings, we can provide custom turn-key systems to meet our customer's specific needs.



# Chemical Transfer Systems

We offer a variety of chemical transfer systems for multiple industry sectors. Our mechanical and electrical engineers can design a custom chemical solution that meets or exceeds all government and safety regulations.



## Mercaptan Injection Systems

Carbis Loadtec mercaptan injection systems are designed for ultra-low dosage applications of mercaptan into LPG. Pumps are powered by air pressure or nitrogen, and the system utilises a closed-loop calibrator to eliminate concerns about exposing mercaptan to the atmosphere. Controls are compatible with Toptech and Accuload controllers, Modbus, and other protocols.

## Additive Injection Systems

Additive Injection Systems can be utilised in a variety of industries and applications. Injection systems are fully customisable to meet your specific needs, as well as having integrated automation controls.

## Chemical Metering Systems:

Chemical Metering Systems use metering pumps with a precise and consistent flow, allowing for accurate fluid handling. They are fully customisable and come with automation controls or a touch-screen user interface.

## Chemical Feed Systems:

Chemical Feed Systems can vary from Hydrochloric Acid metering systems to Sulfuric Acid dosing and everywhere in between. Our engineers have decades of experience working with PVC, CPVC, Stainless Steel, Alloy 20, and many other chemical piping materials.

## Chemical Dilution Systems

Carbis Loadtec is a leading manufacturer of chemical dilution systems. Chemical dilution systems save our clients time and money by allowing them to buy higher concentrated chemicals and dilute them for each specific need.



# Mercaptan Injection Systems

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit www.carbislloadtec.com

Carbis Loadtec mercaptan injection systems are designed for ultra-low dosage applications of mercaptan into LPG. Pumps are powered by air pressure or nitrogen, and the system utilises a closed-loop calibrator to eliminate concerns with mercaptan exposure to the atmosphere.

Pumps are powered by air pressure or nitrogen, and the system utilises a closed-loop calibrator to eliminate concerns with mercaptan exposure to the atmosphere. Controls are compatible with Toptech & Accuload controllers, Modbus, and other protocols.

Storage tanks can be supplied to complete a package. Tanks range in size from 250 to 3800 litres, are designed and fabricated per ASME codes and are outfitted with all necessary instrumentation and nitrogen blanket systems. Optional containment systems are available.



## What makes the Carbis Loadtec mercaptan injection systems the best solution?

- Closed loop calibrator – no risk of exposure of mercaptan to atmosphere
- Quick and easy calibration
- Meter accuracy of 0.25%
- Complete solutions – no need to call multiple vendors

## What benefits can I expect from using Carbis Loadtec mercaptan injection systems?

- Meet government requirements
- Consistent odourisation
- Easy integration with multiple plant control protocols



# Additive Injection Systems

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit www.carbislloadtec.com

Carbis Loadtec manufactures additive and dye injection systems for the petroleum and petrochemical industries.

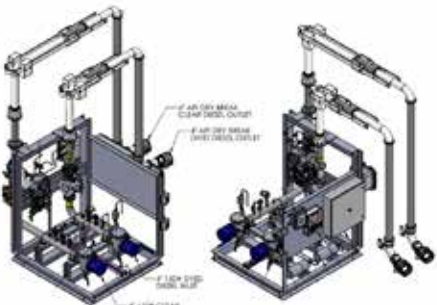
## Additive Injection Systems Include:

- Pump(s) / Motor assembly with start/breaker.
- Automation or programmable logic controls.
- Storage Tank with a level sensor.

## Much of the fuel used worldwide today has some additive injected into it.

Some of the common additives are octane boosters, lubricity products, and dyes. Dyes are used for many reasons, including distinguishing between taxable diesel meant for your everyday on-road vehicles which is clear and red-dyed diesel, which is not taxable and meant to be used for off-road/farm use vehicles and equipment. In aviation, 100LL (Avgas) is the common fuel for piston-powered general aviation aircraft and is dyed blue. This acts as a visual indicator when checking the fuel to ensure the aircraft has been fueled up with the correct product.

If you've ever visited a fuel truck loading facility, you're almost guaranteed to have seen at least one injection system in use. If preplanned, an injection system can be incorporated into the factory's fuel loading/metering skid. Typical components of an injection system will be a pump, strainer, isolation valves, meter, solenoid valve, and check valve. Depending on your application, many of the components listed above can be purchased as a single unit known as an injection block. The main picture is an example of an injection system into a truck-loading skid for dyed diesel. This allows the customer to receive a true plug-and-play system.



## To retrofit existing loading systems with standalone additive systems

With products continuously evolving, a need arises to retrofit existing loading systems with standalone additive systems. These additive systems can either have their own controls or tie into the existing terminal automation software currently being used on-site. Due to the viscosity of some additives at lower temperatures, some may require heat tracing and insulation.

Below is an example of a standalone additive system with a built-in storage tank that is fully heat-traced and insulated to keep the product moving smoothly in colder climates.



If the need arises for a loading skid with a built-in additive injection or simply a standalone additive package to complement your existing equipment, call us, and we'll be happy to assist you.





# Chemical Metering Systems

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit [www.carbislloadtec.com](http://www.carbislloadtec.com)



Chemical metering, mixing, injecting, dosing, and batching are just some of the processes necessary in the complex world of chemicals.

At the centre of every chemical metering skid is a positive displacement pump. This pump uses precise flow rates that can be automatically or manually adjusted.

Chemical metering systems are used due to their precise and constant flow and compatibility with a variety of chemicals. They can be fully automated with programmable automation and touch-screen HMI controls.



# Chemical Feed Systems

Telephone: +44 (0) 1303 81 3030 / Email: info@carbislloadtec.com / For technical data, please visit [www.carbislloadtec.com](http://www.carbislloadtec.com)



Chemical feed solutions must consider the product and its potential interactions with the material being used for fabrication. The engineering and design team at Carbis Loadtec understands these issues, having worked in and with the chemical industry for years.

## Chemical Feed Systems Include:

- Disinfection systems.
- Fluoride treatment.
- Sodium hypochlorite systems.
- Potassium permanganate dosing systems.
- Sodium hydroxide feed systems.
- Sulfuric acid dosing.
- Sodium bisulfite metering.
- Dispersant polymer dosing.
- Alum feed.
- Coagulation & flocculation.
- Hydrochloric acid metering.





# Chemical Dilution Systems

Telephone: +44 (0) 1303 81 3030 / Email: [info@carbisloadtec.com](mailto:info@carbisloadtec.com) / For technical data, please visit [www.carbisloadtec.com](http://www.carbisloadtec.com)



Carbis Loadtec is a leading manufacturer of chemical dilution systems. Chemical dilution systems save our clients time and money by allowing them to buy higher concentrated chemicals and dilute them for each specific need.

## Chemical Feed Systems Include:

- Disinfection systems.
- Fluoride treatment.
- Sodium hypochlorite systems.
- Potassium permanganate dosing systems.
- Sodium hydroxide feed systems.
- Sulfuric acid dosing.
- Sodium bisulfite metering.
- Dispersant polymer dosing.
- Alum feed.
- Coagulation & flocculation.
- Hydrochloric acid metering.





The Stables, Coach House, Hythe Road, Smeeth, Kent, TN25 6SP, UK

**Tel:** +44(0)1303 813030 **Email:** [info@carbisloadtec.com](mailto:info@carbisloadtec.com)

**Website:** [www.carbisloadtec.com](http://www.carbisloadtec.com)