

Our Projects

Telephone: +39 051 0259201 / Email: info@zipfluid.com / For technical data, please visit www.zipfluid.com

We are often involved in providing engineering consultancy at initial concept through to commissioning; although, we are also happy to offer competitive and innovative proposals based on third party design architectures.

Hereafter a short selection of our projects:



EQUIPMENT:
Top Loading Arm

MAIN FEATURES:
Parallel bar
Self-Supported parking tundish

PRODUCT:
Propylene



EQUIPMENT:
Bottom Unloading Arm

MAIN FEATURES:
Ease of use
Break-away valve

PRODUCT:
Propylene



EQUIPMENT:
Top Loading Arm

PRODUCT:
Phosphoric Acid

MAIN FEATURES:
Heating system
Stainless steel 904L
Coriolis mass flowmeter



EQUIPMENT:
Bottom Loading Skid

PRODUCT:
Benzene

MAIN FEATURES:
Compact design
Turbine flow meter



EQUIPMENT:
Top Loading Arms & Manifold

PRODUCT:
Liquid sulphur



MAIN FEATURES:
Jacket for oil heating
Insulation and cladding

Our Customers

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Zipfluid services a wide range of customers from multi-national engineering and procurement companies to one-man businesses.

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 or have worked with.

- ADM
- Akzo Nobel
- Al Majd Warner Lewis
- ALBIS Plastics
- AMEC
- Arabian Chem. Industries
- Arizona Chemical
- Arkema
- BASF Chemicals
- BC&T Consultants
- Bostik
- Brenntag
- Briggs PLC
- Bristol-Myers Squibb
- BTT Marine
- Charles Scott & Partners
- Chivas
- Clariant
- ConocoPhillips UK
- Cookson & Zinn
- Costain
- Croda
- DCM Group
- Depots Petroliers de Fos
- Diageo
- DPS Engineering
- Dundee Bitumen
- DuPont
- Eastham Refinery
- ECOBAT
- Enerflex Middle East
- ENI
- ExxonMobil
- Fabweld New Mills
- Flightline
- Foster Wheeler
- ENGIE (ex GDF SUEZ)
- Glen Turner Distillery
- GREENERGY
- Guinness
- Hexion
- Huntsman
- Hydrocar Chile
- HydroChem
- I.G.L.O.M. Italia
- IES
- IKL - Istana Karang Laut
- INSURCOL Engineering
- INVISTA
- J G Pears
- J.Murphy & Sons
- Jacobs Engineering
- John Dewar & Sons
- Johnson & Johnson - Janssen Pharmaceutical
- Kemira
- Kerneos
- Petrolifera Italo Rumena
- Lonza
- Ma'aden - Saudi Arabian Mining Company
- Mallinckrodt Pharmaceuticals
- Maire Tecnimont
- Musk Engineering
- Nautilus Aviation
- NAVIGATOR THAMES TERMINALS
- Neri Depositi Costieri
- NuStar Energy
- Nuova Solmine
- Oleificio Fiorentini
- Oxon Italia
- Papa Petroleum
- Par Petroleum
- Parker - VFP Fuelling
- PDIL Engineering
- PETRA (PIR Group)
- Petroineos Scotland
- Petrolimex
- Pioneer Petroleums
- PQ Silicas
- Prefere Resins
- Rebellion Beer
- Repsol
- Sabic
- Salov
- San Marco Petroli
- SARA CM
- Sazin Enterprise
- Scott Bader
- Schwarz Pharma
- Siirtec Nigi Engineering
- Sprintchimica
- Starlaw Distillery
- Sumitomo Chemical
- Texon
- Titan Aviation
- Total
- UM Storage
- Unigrà
- Univanich
- Valero
- Vikoma International
- Vistakon
- Vivergo Fuels
- VOPAK
- Walker Engineering
- WG&R Engineering
- William Grant & Sons Distillers
- Yara



Industries we work in

How does one move liquid in bulk from storage to people who need it safely and efficiently?

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

- Agriculture
- Aviation
- Building
- Chemicals
- Fertilisers
- Food & Beverage
- Oil & Gas
- Paint
- Petrochemicals
- Pharmaceuticals
- Waste solvents
- Water Treatments

Tanker Loading Metering Skids

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Zipfluid can meet the needs of any bulk plant or major terminal seeking safe, clean and cost effective tanker charging and discharging facilities.

The growth in turnkey system solutions for pumping, metering and tanker loading has increased over the last few years. The expansion of oil exploration and distribution in remote parts of the world means that customers need to buy a system that is reliable.

Reducing site time and eliminating the variable quality of locally fabricated goods means that operators can buy plug- and-play systems to meet their exact and future needs.

Our skids are built from high quality fluid transfer products and their outstanding quality and robust reputation is proven around the world.



Did you know?

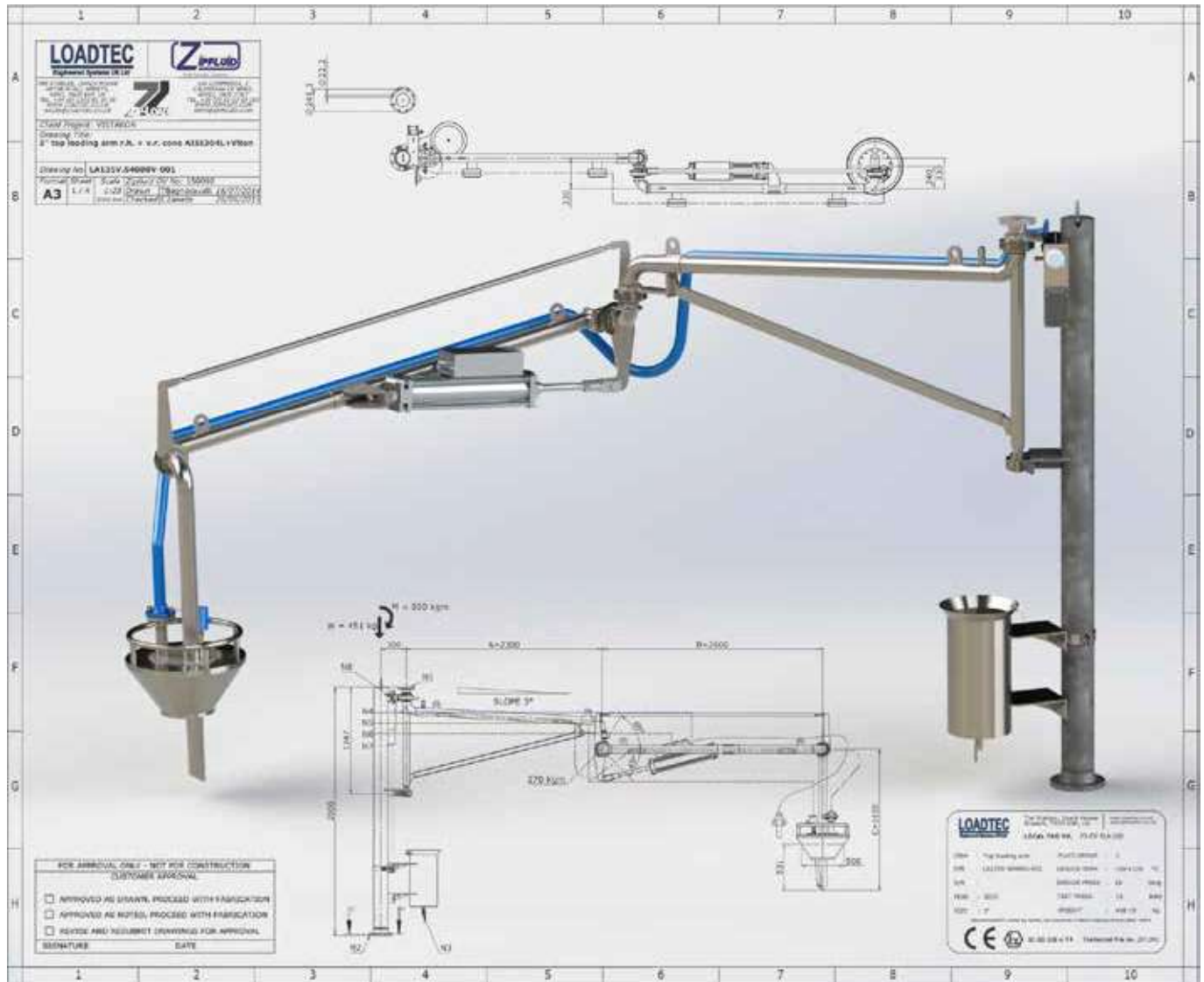
Hot or cold?

Zipfluid have supplied meter skids to work in the frozen north of Russia to the steamy heat of equatorial Africa. Our packages are custom designed to suit our client's criteria and climate conditions.



Tanker Loading Top Loading Arms

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Top loading is still the most widely used method of filling tankers around the world. Some instances exist where liquids, mainly fuels, have been transferred to bottom loading, but this is largely through legislation and global agreements

There remain some areas of the world where fuels are still top loaded. Generally these are small depots with low throughput, exploration facilities and countries where mass road tanker conversions have yet to take place.

Traditional top loading systems for petroleum/fuel comprise of a variable reach loading arm with a slow closure



shut-off valve. These are mounted on standposts at gantry floor level and can service 2-3 manhole openings on a correctly positioned tanker.

Other industries are not so fortunate. The diversity, complexity and hazards encountered when transferring many liquids into general purpose tankers means that it is easier and quicker to retain top loading. Along with Zip-Load fall prevention systems, we can make top loading very safe.

Top loading assumes the transport vessel is a simple barrel on wheels with a manhole in the top and a valve at the bottom. In almost all cases the tanker has no built-in high level detection or vapour return facilities. The advantage of top loading is that all the sophistication required can be fitted to the loading arm.

This can include:

- High (and high-high) level probe
- Vapour collection
- Vapour pressure monitoring
- Anti-drip valve
- Telescopic drop pipe (Anti-splash/static generation)
- Full wireless remote control of the arm movements



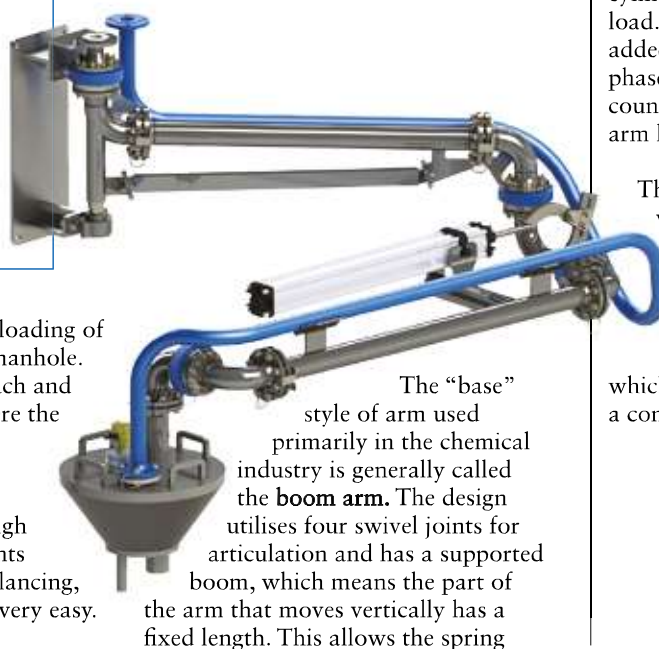
Did you know?

Most used method of filling a tanker

Top loading is still the most used method of filling a tanker due to the peripheral safety features such as high level alarm and vapour recovery that can be supplied as part of the arm.

The arm is most suited for the loading of road or rail tankers using the manhole. The loading arm has a long reach and is suitable for applications where the manhole cannot be accurately positioned.

Because of the robust and high quality design of the swivel joints and the precise loading arm balancing, handling of the loading arm is very easy.



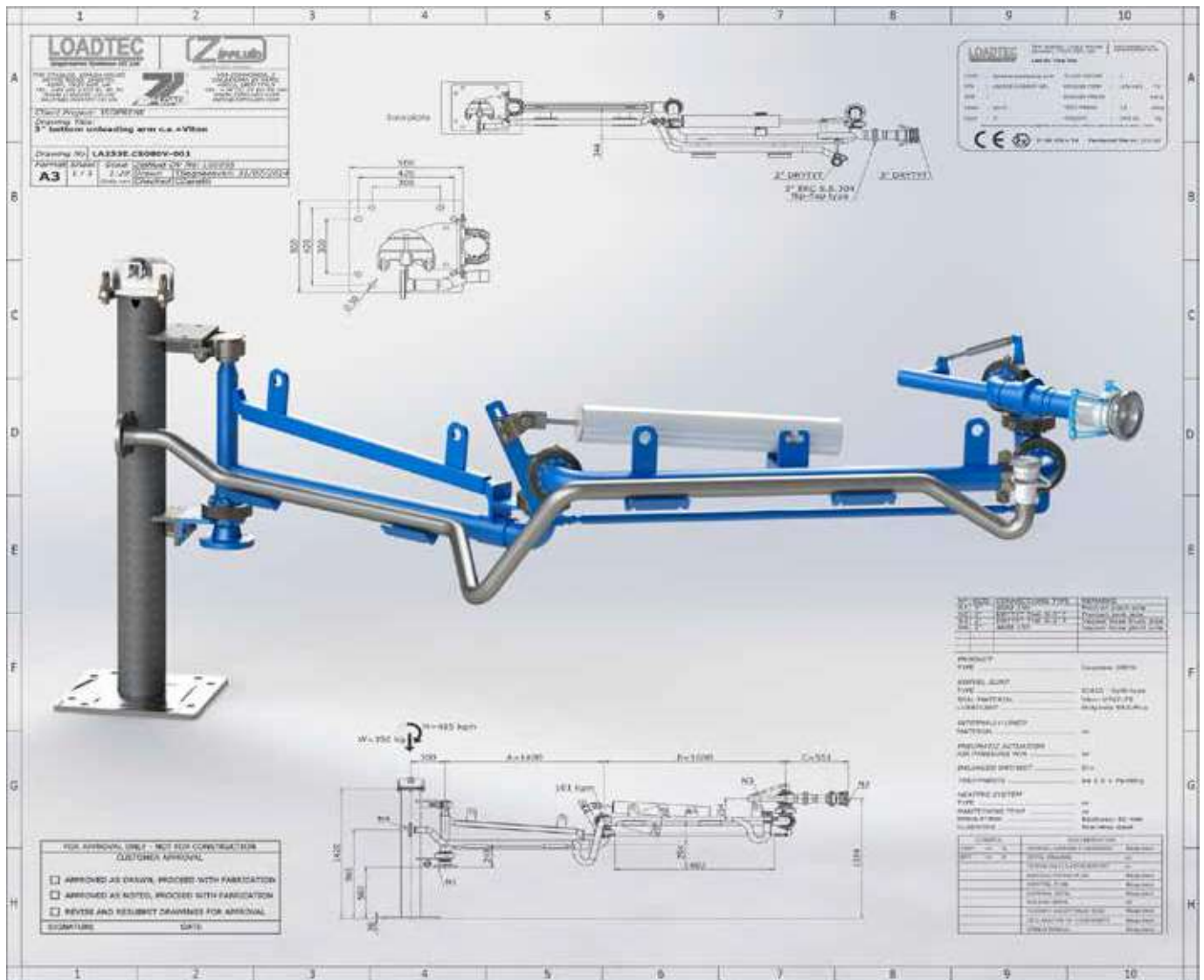
The “base” style of arm used primarily in the chemical industry is generally called the **boom arm**. The design utilises four swivel joints for articulation and has a supported boom, which means the part of the arm that moves vertically has a fixed length. This allows the spring

cylinder to counter-balance a fixed load. Because of this, items can be added to the arm during the design phase and have smooth and easy counterbalance. It also means that the arm has a wider range of articulation.

The boom loading arm is also used where displaced vapours need to be collected at the top loading connection and transferred back to the platform for safe disposal. It is fitted with a cone to seal the manhole and a flexible hose which is piggybacked along the arm to a connection flange point.

Tanker Loading Bottom Loading Arms

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Petroleum/fuel tanker filling via low level connections provides operators with the potential to load multiple compartments simultaneously as well as having automatic high level alarms for each compartment

Zipfluid supplies high quality and durable systems with long warranties that will give up to seven liquid arms and one vapour arm per bay. Combined with our API coupler range we provide loading arms as stand-alone products, or along with our meter skid systems we provide packaged solutions for tanker filling working to all recognised design and functional standards.

The bottom loading arms are fitted with spring cylinders which allow easy vertical position adjustment and incorporate specially made composite hose for long life and chemical resistance.

The arms can optionally be fitted with breakaway couplings if required.

The standard configuration bottom un/loading arm with five swivels has been a dependable, safe and clean method for tanker fill/discharge for many years. Experience has shown that if the tanker connection arm is fitted with high weight components such as a ball valve or breakaway coupling, the arm can be difficult to manoeuvre and handle.

To prevent this and ensure that tanker loading is a one-man operation, Zipfluid provides a six swivel arm

design, for complete three axis movement of the tanker connection allowing for tanker height changes during fill/discharge, while keeping the loading arm connection to the tanker parallel to avoid stressing the tanker connections.





Did you know?

The lighter, the better

The combined weight of a 4-metre DN80 chemical hose, dry break coupler and full load of liquid is approximately 50kg. The weight of a fully laden bottom loading arm is 0kg. Which would you prefer to handle?



Tanker Loading Bottom Loading Station

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This type of loading arm is especially designed to transfer liquids and gases where vapour return is necessary. It is suitable for the bottom loading/unloading of road or rail tankers with flange connections or via a coupling. The loading arm has a long reach and is suitable for applications where the tanker connection flange cannot be accurately positioned

Because of the robust and high quality design of the swivel joints and the precise loading arm balancing, handling of the loading arm is very easy.

Recent developments have allowed for six swivels to be used in each arm.

This gives true three axis movement at the tanker connection and makes

handling the arm valves or accessories effortless.

The arms can be designed to connect to side and/or rear of the tanker and also cross over to suit the configuration of the tanker connections.

Did you know?

Avoid catastrophic losses

The effect of an unplanned tanker departure while connected to the loading lines can be catastrophic, both in terms of human and production loss. It is far easier to fit emergency release couplers into the loading and vapour arms than to take a cumulative daily risk.

Storage Tank Equipment Floating Suction Units

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Floating suction units are used for safe and clean liquid draw off from storage tanks where liquids need to be uncontaminated by water or solids.

Suspended by the surface of the liquid, the inlet to the pump is held in the clean dense product regardless of the constantly changing liquid level. For tanks with floating roofs, large bore roof skimmers move with the roof to drain away unwanted liquid.

Floating suction units come in a range of designs to suit buried, above ground, semi-buried and vertical tanks as well as for use with articulated drainage units with a floating ceiling/roof.

Zipfluid floating suction units range in size from 2" to 36" and can also be ganged together to form a dual suction facility equivalent to 48" inlet.

Materials are generally stainless steel, aluminium and carbon steel.



Fall Prevention Tanker Loading Platform

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Safe and reliable access onto tanker tops is a subject of increasing concern to all engineers and safety managers involved in the area of bulk liquid transfer

The Tanker Loading Platform is designed to provide drivers and operators with secure and safe access on to tankers of varying heights, either to sample or load product.

Used in conjunction with the Zip-Load range of fall prevention systems, the system can be designed to meet any customer requirement.

The method of access to the elevated level is by staircase which can be configured to suit site constraints and

designed with escape and safety in mind.

Zipfluid can install these stations very quickly on foundations prepared by others to minimise site disruption.



Fall Prevention Standard Folding Stairs

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Simple access onto a tanker is provided by the folding stair unit.

Available with a range of optional safety cages, this simple retractable stair is the primary method of tanker top access all over the world

The proven design with parking lock gives an effective method of bridging a variable gap between platform and tanker.

Generally available as three, four or five step systems, they are spring counterbalanced and have features such as a parking lock and split second step to avoid toe traps when lowering. Safety cages are available at 1.4m or 2.8m wide.

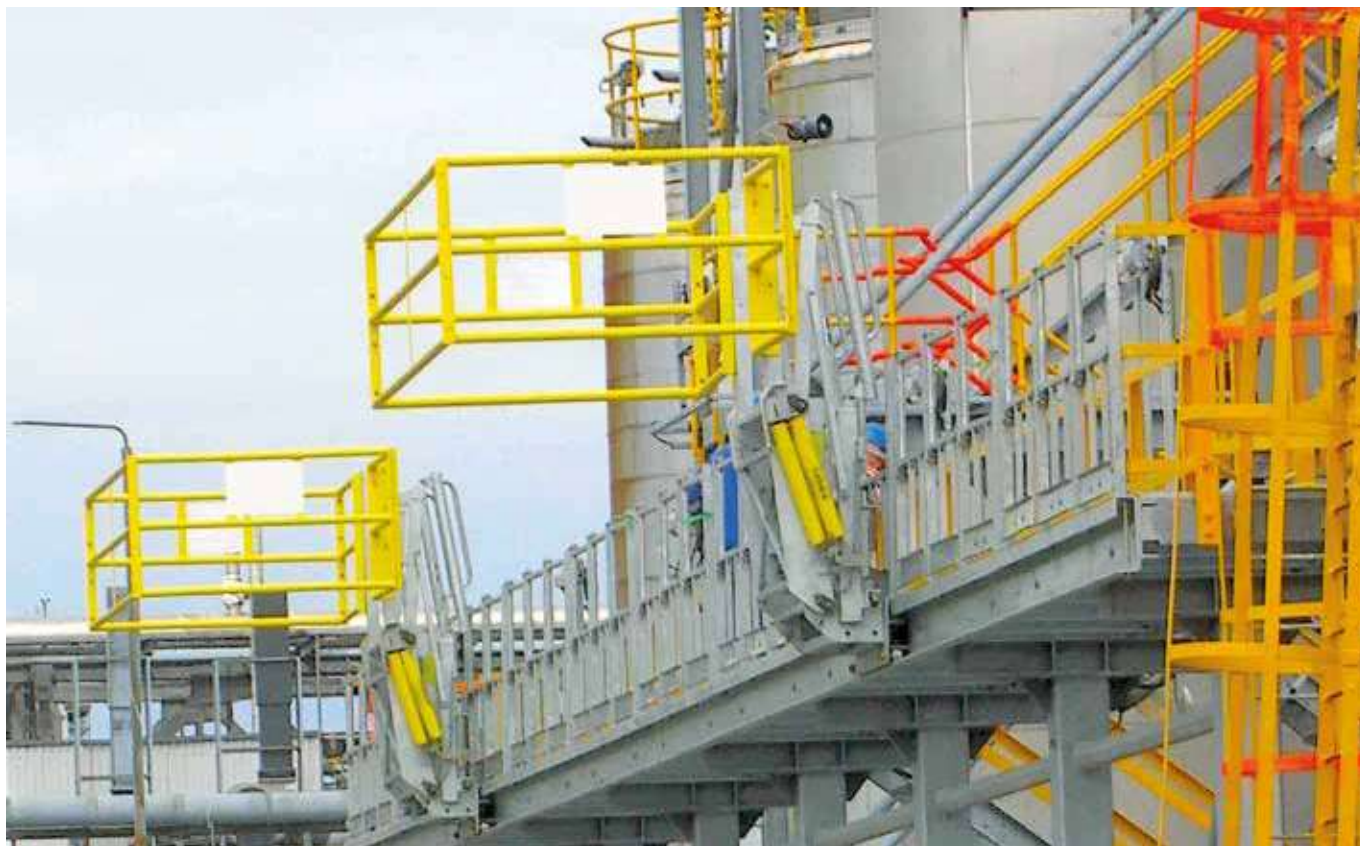
Optional extras such as pneumatic or hydraulic balance and parking sensors can be fitted.

Zipfluid provide a combination of aluminium, painted, galvanised and stainless steel systems to suit your application.



Fall Prevention Track Mounted Gangway

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In situations where access for a tanker, or multiple tankers, is required along a road way, the Track Mounted Gangway gives total operational flexibility and safe access by having a folding stair mounted to a unique track

The track system also carries the safety barriers and swing-shut gates that give the walkway its integrity.

The gangway is mounted on a carriage which rolls, using high quality bearings, along a special track system. The track is available in two, three and four metre long sections and can be retrofitted to most platforms. This system is used extensively where tankers are pulling alongside multiple storage tanks to discharge.



Fall Prevention Multi-Modal Access System

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Safe and reliable access onto tanker tops is a subject of increasing concern to all engineers and safety managers involved in the area of bulk liquid transfer. Unacceptable levels of injury and fatalities in recent years have made this one of the leading issues within the bulk fluid transfer industries.

The Multi Modal Access System is designed to provide drivers and operators with flexible and safe access on to tankers of varying heights and lengths, whether to load or sample liquids or to open vents for bottom loading.

The unique feature of the multi-modal is that each end of the cage can be tilted to match the slope of a tanker top.

The multi-modal is made in galvanised steel and has aluminium flip-up floor panels. Galvanised or GRP floor panels can be specified if necessary. Used in conjunction with the range of loading platforms and loading arms, the system can be designed to meet almost any customer requirement.

The continuous floor level removes any concerns about tanker walkways and falling off the end of the tanker. The tilting system ensures that the gap between the cage and the tanker is minimised and limit switches stop movement before the tanker is contacted. The range of travel is 1.5m from 3.2m to 4.7m, which gives a safe margin for passing traffic and ensures every form of tanker transport can be safely accessed.

The multi-modal can be designed for any application, ranging in length from 4m to 15m. The platform consists of two sections: Inboard, closest to the folding stair, is the walkway; a 0.6m wide grated plank surface that allows the operator to walk easily along the full length of the

tanker top. The second section consists of the flip-up panels; these measure 1.4m long x 0.3m wide with a serrated, non-slip surface. They are easily lifted and parked against the far handrail then secured using the supplied carabineer clips.

Each multi-modal is controlled by a stand-alone power pack and customers can select between electrically or pneumatic powered hydraulics as well as ATEX, NEMA 7 or NEMA 4 electrical standards. At platform level there is a panel to provide the operator with simple, push-button control of the up, down and tilt movements.



Fall Prevention Tanker Enclosure System

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There are many tanker access situations that require the operator to have free access to the entire tanker top. This can mean walking along the top of a round barrel or ISO container with varying designs of walkway and manhole positions and associated trip and fall hazards

The Tanker Enclosure System has its own integral walkway built into the structure, giving it greater rigidity and enhanced safety. It is integrated with a folding stair unit which can be manually or pneumatically operated

The enclosure is available up to 12 metres long with aluminium construction. The system can be designed to be used for inspection purposes or with a number of loading arms. The System is supplied with flip up floor panels so that access to all areas of the tanker is independent of tanker walkways.

The System is powered by twin pneumatic cylinders to give a smooth

and simple up/down movement over 1.5m. Essentially, it offers the same levels of security and assurance as the Multi-Modal, but without the ability to tilt at each end.

The system is automatically supplied in accordance with ATEX and is operated by a single, simple deadman switch from the platform level. Like the Multi-Modal it can be fitted with switches to detect the tanker and stop the downward movement. Similarly it can be supplied with a parking switch that the client can use to connect to a traffic management system.

Fall Prevention Mobile Access Cart

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The mobile access cart is designed to provide drivers and operators with a flexible and safe access on to tankers of varying heights, either to sample or load product

Constructed in aluminium, these mobile platforms can be moved around a loading bay easily by one person or longer distances with a tractor. Wheels then run parallel to tanker for areas where space is limited.

It consists of an aluminium flat-step extension ladder with open serrated metal plank steps giving an un-extended height 3m under platform up to an extended height of 5m under platform.

The large (1.6m wide X 2.14m long X 1m deep) cage is attached to a 0.46m wide X 0.725m long platform at the top of the ladder. The cage has a 0.4m walk surface on the inboard side.



To provide easy mobility the access cart is fitted with 0.4m foam-filled wheels. Levelling jacks at each corner provide a stable and firm base for safe ladder extension. The ladder is extended and retracted using a simple hand winch operation and the cart is easily moved around site using a steering handle with tow bar.



Marine Equipment Marine Loading Arm

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Zipfluid marine loading arm brings together the latest thinking in design with efficient and cost effective European production. This allows Zipfluid to compete with low costs that can be realised as massive savings to the customer

Zipfluid utilises the pantograph link design to provide high quality and robust arms ranging from 4" to 20". Apart from the standard temperature range, Zipfluid can supply arms that operate between -196°C and +200°C.

A unique feature to the Zipfluid marine loading arm is the ability to change the 1st and 2nd swivels in-situ without dismantling the arm.

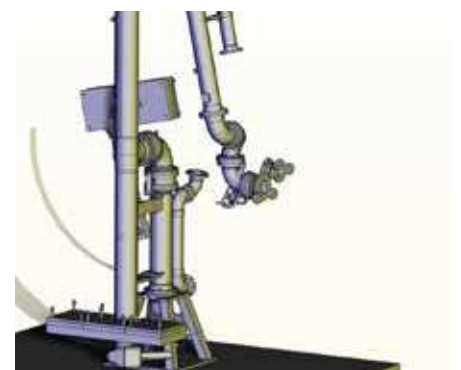
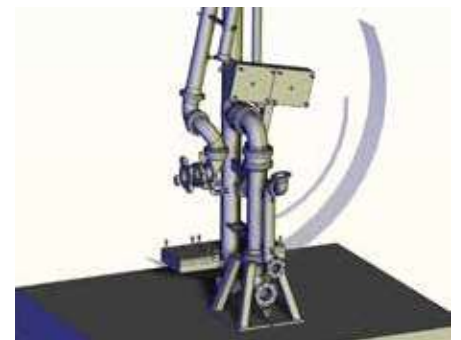
This is an important feature which offers huge cost savings over the lifetime of the arm.

Zipfluid also has its own double ball valve and emergency release system which is installed in the vertical leg.

Did you know?

Variations in vessels, tides, currents, etc can make accessing ships challenging

Zipfluid's ship to shore access equipment is designed and manufactured to meet your terminal's specific needs and provide safe access to all types of vessels.



Tanker Loading Pumping Groups

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PU_1 / PU_2 SERIES

Volumetric, rotary, self-priming vane pumps PU series are suitable for fuels (PU1) and solvents (PU2). They can be installed on trucks, plants, marine or aviation groups, coupled with electrical, hydraulic or diesel motor.



PG_1 / PG_2 SERIES

PG Pump Groups are assembled with PU series pumps, suitable for fuels and solvents, coupled with electric or diesel engines through gearbox or belt and pulley and housed on galvanized carbon steel bases. They can be installed on plants, marine or aviation groups, in stationary or movable assets.



Tanker Loading Grounding & Overfill Monitors

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Static generated by fast flowing liquids in pipes can be very dangerous. The need to eliminate static build up is proven, and in many cases, mandatory

During loading and unloading of tank trucks, silo trucks, railway tank wagons as well as containers and similar vessels with inflammable liquids or other goods explosive gas and dust atmospheres may arise. A single spark can be sufficient to initiate an explosion. To prevent this danger effectively, the occurring electrostatic charge must be dissipated safely.

The Overfill Controller is the stationary part of the Overfill Prevention System for bottom loading tank trucks. It monitors and controls the filling process of liquid fuels. To ensure a safe filling process Overfill Controller monitors the maximum permissible filling level, the grounding and the vapour recovery connection.



SJ200 / 400 series

Sizes: from 2" to 6"

Zipfluid manufactures a wide range of steel swivel joints, from 2" to 6", with different seals and in any style, to meet different requirements for petroleum, chemical, industrial, food and many other applications.



SJ620 series

Sizes: from 3" to 20"

Zipfluid manufactures a wide range of aluminum swivel joints, from 3" to 20", with different peculiarities, for different applications.



VA100 SERIES

VA100 dry break coupler is designed in conformity to API RP1004 standard. It is used to provide safe and clean tankers' bottom loading and unloading operations.



VA200 SERIES

VA200 flow valve is designed to shut off the flow without causing fluid hammers in the pipeline. It is usually applied to top loading arms.



Servicing

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Installation

We are able to offer an installation service; we will send out qualified engineers to enable your new equipment is installed correctly.

Maintenance

We are able to provide service engineers to carry out maintenance as required or on a contract basis.

Spares

Although all Zipfluid and Zip-Load products come with long warranties and unrivalled performance, sometimes accidents happen and repairs are needed.

We offer a comprehensive collection of spare parts for all supplied products.

