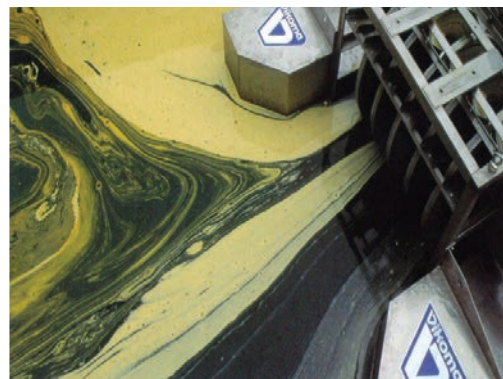
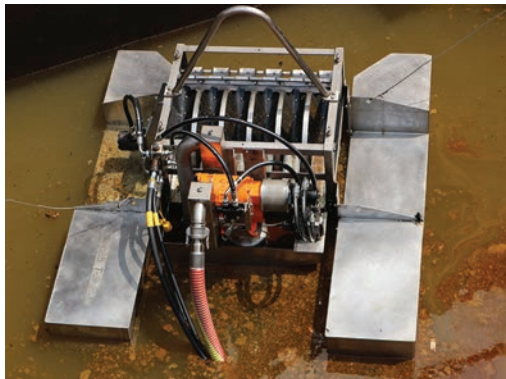


Waste Process Water Oily Water Skimming



Protecting our environment over 50 years



Oily Water Skimming • Powerpacks • Permanent Booms

Vikoma is a world leader with over 50 years experience in the design and manufacture of reliable equipment for your oily water skimming. You can depend on our products to work reliably when you need them and Vikoma will be there to support you through the product lifecycle.

With a range of solutions which includes oil skimming systems, boom systems and powerpacks together with training and commissioning services, Vikoma is your one stop solution. We have a network of agents and distributors around the world with our regional sales managers, we are easy to reach and provide you with the level of service you would expect from a world leader.

Vikoma products are industry renowned for quality, durability and lifespan and we are fully accredited by Lloyds Register Quality Assurance ISO 9001:2015.



We care about our planet and are taking steps to reduce our carbon footprint and improve our environment. Working towards the circular economy, our waste is recycled and our core products are designed to be kept as long as possible through maintenance, refurbishment and servicing which we can help you with. Our oil recovery disc skimmers will also help you achieve environmental goals too, as oil recovered can be reused or recycled, which is good for the environment and your budget.



We have a team of experts ready to help you, whether that's at budget setting stage or if you are ready to buy equipment. Talk to us and we can help build a package of equipment to suit your application or help you solve a problem.

Why install an oil recovery skimming system?

Vikoma skimmers are highly effective and while complying with legislation, our systems save money too by reducing the volume of slops and waste for disposal. The oil recovered is up to 98% oil content enabling it to be reused or recycled. Additionally, by recovering oil in open ponds and tanks this leads to a reduction in air pollution and odour caused by evaporating hydrocarbons.

Applications

Our products suit many applications including oil/water interceptors, ballast ponds, process tanks, settling tanks, storm water, API separators, man holes, evaporation pits and covering a range of oils and viscosities.

Areas of use

Areas of use include oil and gas refineries, hydroelectric plants, iron and steel mills, chemicals, food processing, power generation, mining, ground water remediation, automotive plants, machining, hydraulic fracturing (fracking).

Oil Recovery Skimmers

Vikoma skimming systems can be used in tanks or located in separating interceptors and sumps to recover the oil. We offer highly efficient disc skimmers which can recover waste with up to 98% oil content as well as weir skimmers.



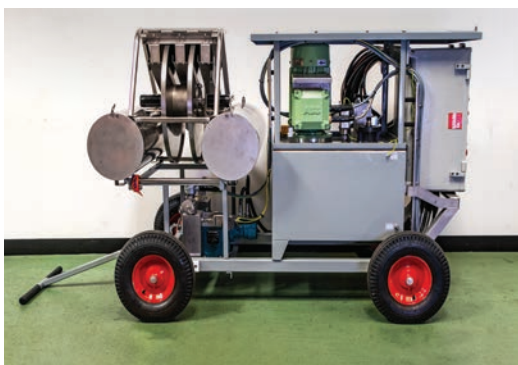
Permanent booms systems

Vikoma offers a range of barriers and booms which can be deployed permanently to protect inlets, outlets or channels in industrial applications such as refineries. They can be used to prevent pollutants escaping or entering industrial facilities.



Powerpacks

We offer a range of powerpacks for use with our industrial skimming systems or other hydraulic equipment. We can offer electro-hydraulic, pneumatic and diesel solutions, fixed or portable formats.



Documentation, Project Management and Certification

We provide full project management throughout the project, ensuring the project progresses smoothly and all requirements are met. Documentation and certification needs of our customers varies significantly and we are able to tailor our packages to meet your project requirements.

This brochure provides an overview of our products and services. For more information see www.vikoma.com or call our sales team on +44 (0)1983 200560.

Index

Skimming systems	Page 3 - 7	Technical Information	
• Oleophilic disc skimmers	Page 3 - 4	• Materials	Page 10
• Weir skimmers	Page 5	• Operating areas	Page 10
• Intank skimmers	Page 6	• Value of recovered oil	Page 10
• Mop skimmers	Page 7	• Area of influence of skimmer	Page 11
Powerpacks	Page 8	• Disc skimmer efficiency	Page 11
• Electro-hydraulic	Page 8	• Pump types	Page 12
• Pneumatic	Page 8	Project expertise	Page 13
• Diesel	Page 8	Services and support	Page 14
Permanent boom systems	Page 9 - 10		

Oleophilic Disc Skimmers

Oleophilic industrial disc skimmers are highly efficient skimmers recovering oil at 98% oil to water ratio. There are two disc types, either flat/plain disc (P disc) or T disc configuration. Oil attaches itself to the disc through oleophilic action and water does not. As the disc rotates the water drops off. Scrapers are placed in optimum positions to ensure they scrape the recovered oil from the disc. Recovered oil is then corralled down and into the recovery hopper where it is collected and pumped.



Above - Skimmer with T discs

The T and P disc options work in exactly the same way, however the T disc gives a greater surface area and better results when rotating the discs at higher speeds. This can be important as faster disc speeds are more efficient at recovering very light oil contaminants. When selecting the skimmer it is important to determine the effective area of operation of the skimmer and not only the skimmers recovery capacity. For example, our Maxi skimmer has a recovery capacity of up to 14m³ per hour, however the effective area should also be considered. The effective area is known as the skimmers area of influence and is the area from which the skimmer can draw in floating oil contaminant towards itself. The number of discs selected determines the area of influence.



Above - Skimmer with P discs

Oleophilic disc recovery considerations:

- T disc variant offers improved recovery efficiency when recovering very light oil viscosities in the region of 1 Cst
- T disc configuration prevents light oil from being thrown from the disc at higher rotational speeds
- Disc rotation helps to 'draw' the oil contaminant towards the skimmer
- Oleophilic disc recovery is very efficient, with oil to water pick up ratios better than 98%

Maxi Disc Skimmer

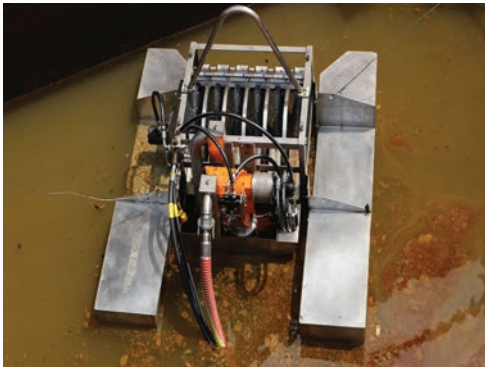


Above - Maxi disc skimmer complete with powerpack

The largest skimmer in the range with a maximum recovery capacity to 14 m³. The area of influence is in the region of 95 square meters principally due to the large number of disc's on the skimmer.

- 8 rotating discs offer a large area of influence
- On board recovery pump with variable speed control from the onboard float valve fitted within the recovery sump
- Hydraulically driven lobe pump or air operated diaphragm pump
- Hazardous area classification from Zone 0, Zone 1, Zone 2 or Non-hazardous
- Can be driven hydraulically, pneumatically or a combination of both utilities
- Standard model is manufactured from grade 316 stainless steel with option for painting
- Upgrade to exotic stainless steels such as 6Mo and super duplex
- Designed and engineered to be a fully automated safe system, however the set up can also be configured for timed or manual intermittent use

Midi Disc Skimmer



A mid size skimmer with a maximum recovery capacity to 9m³. The area of influence is in the region of 65 square meters. The system can also have various drive options as per the Maxi system and the onboard recovery pump can also be a hydraulically driven lobe pump or air operated diaphragm pump.

- Mid sized skimmer in the range
- 5 rotating discs
- On board recovery pump with variable speed control from the onboard float valve fitted with the recovery sump
- Hazardous area classification from Zone 0, Zone 1, Zone 2 or Non-hazardous
- Can be driven hydraulically , pneumatically or a combination of both utilities
- Standard construction is grade 316 stainless steel with option for painting
- Upgrade to manufacture using exotic stainless steels such as 6Mo or super duplex
- Designed and engineered to be a fully automated safe system however the set up can also be configured for timed or manual intermittent use

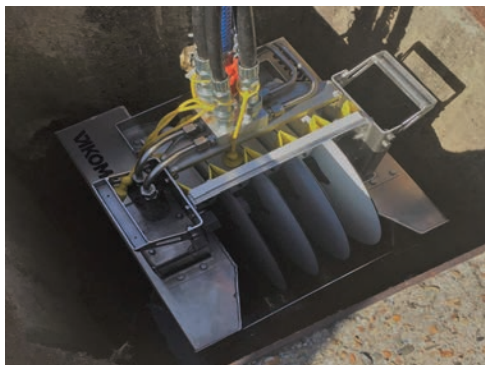
Mini Disc Skimmer



A smaller skimmer with a maximum recovery capacity to 5m³. The area of influence is in the region of 35 square meters. The system can also have various drive options to rotate the discs hydraulically or pneumatically. The pump is remote from the skimmer and should be speed paired with the recovery efficiency of the disc skimmer so this set up is more of a manual skimming solution .

- 2 rotating discs
- Remote recovery pump variable speed control from system power pack or drive source
- Hazardous area classification from Zone 1, Zone 2 or Non-hazardous
- Can be driven hydraulically or pneumatically
- Standard construction is grade 316 stainless steel with option for painting
- Upgrade to manufacture using exotic stainless steels such as 6Mo super duplex
- System is available with an option to fit a variable speed float valve within the skimmers recovered oil sump, the set up enables the system to be more semi automated

Komara Micro



This highly efficient disc skimmer is the smallest in the range. A Trolley mounted system, it is a light and portable skimming system for use in oil traps manhole pits, small tanks drums and chambers. The system is available with a variety of drive options to include battery, pneumatic or mains power.

- Portable light weight skimmer
- Efficient system
- Ideal for areas with limited access
- Self sufficient package on a trolley

Weir Skimmers

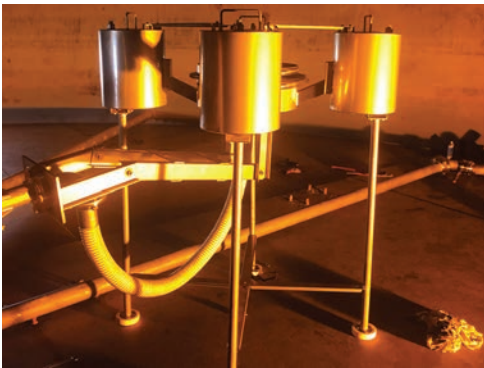
Our Vikoma Dragonfly range of skimmers are floating weir skimmers capable of recovering many types of oil. They can be used in open environments or closed tank applications. The depth of the circular weir is controlled by a float unit situated in the oil collection trough, the control of which is dependent on pump suction.



The Dragonfly skimmer can be supplied with a variety of different transfer pumps in order to meet the use requirements for all including:

- Diesel driven
- Electric driven
- Pneumatic
- Hydraulic driven

Dragonfly Maxi



The Dragonfly Maxi is the largest of the Vikoma weir skimmer range. Capable of up to 15m³/h recovery, dependant on suction provided by the pumps. The unit is typically constructed of 316L stainless steel but is also available in other materials to suit the environment:

- 316L stainless steel
- Super Duplex austenitic stainless steel
- 6Mo austenitic stainless steel

Dragonfly Midi



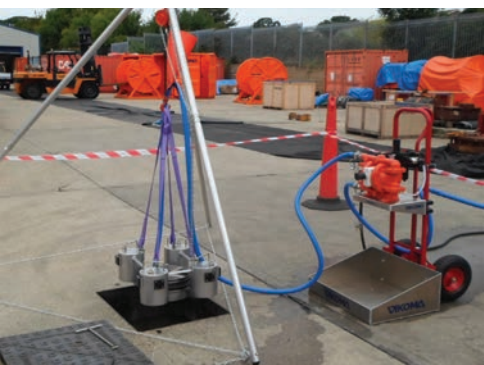
The Dragonfly Midi follows the same design principles as the larger Maxi Weir Skimmer, with a capacity of 5m³/h.

it is designed to fit in a more confined spaces such as

- Sumps
- Wells
- Small separation chamber/pits

Another benefit of this more compact design is the lightweight nature, making it an easy one-man operation for deployment.

Dragonfly Mini



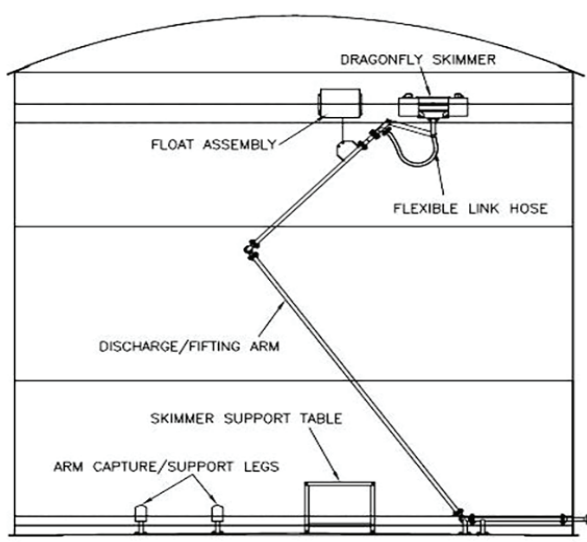
A versatile weir skimmer ideally suited to difficult to reach areas such as access holes, sumps and pits.

With use of a simple winch system this can be safely deployed.

A typical system would be complete with pneumatic pump, but as with all weir systems in this range, pumps can be specified to the site requirements.

The whole system is packaged on a trolley for easy storage and manoeuvrability around the work site.

In Tank Skimmers



Above: swivel arm in tank skimmer system

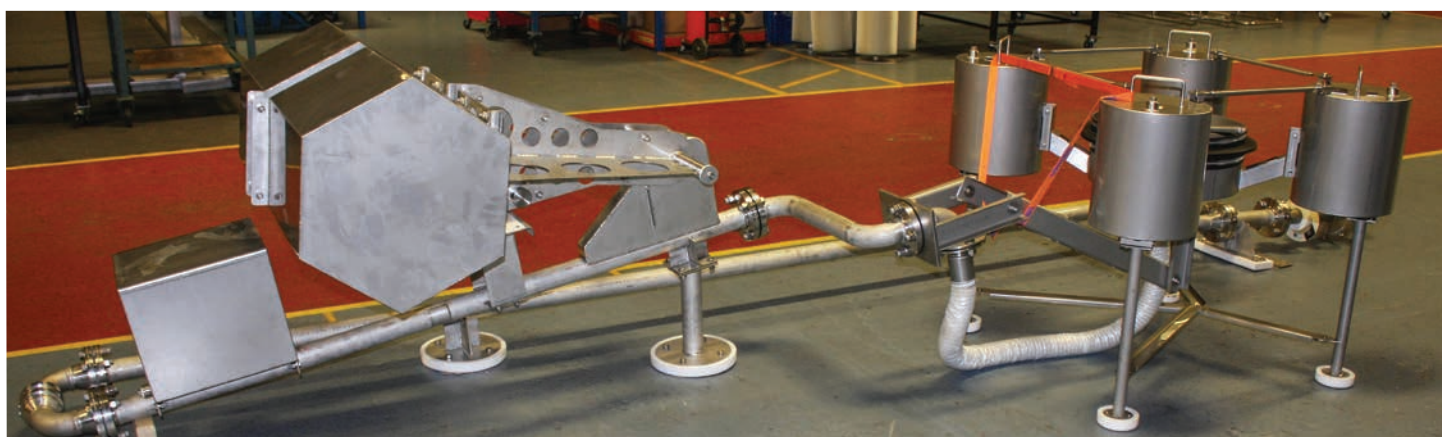
The In-Tank skimmer is a floating weir skimmer. It is designed primarily for the recovery of a range of floating pollutants and can be used in either fixed or floating roof tanks. It typically consists of a floating Dragonfly skimmer and discharge tube assembly.

Our intank skimming systems can rise and fall with the roof structure, either independently or fixed to maximise efficiency.

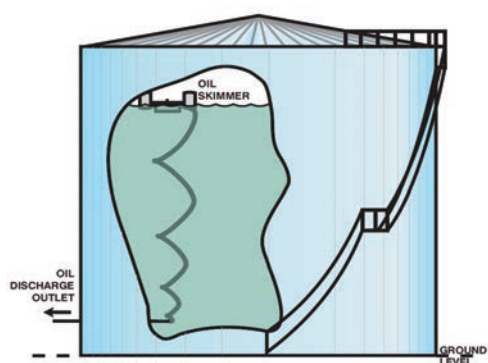
Skimming systems can be manufactured from a wide range of materials including SS 316L, 6Mo, Super Duplex and Incolloy 825.

Swivel Arm Discharge

A key part of our In Tank Skimming System is the Swivel Arm, this allows the system to move with the water level and sit at the base of the tank when little to no water is present. Vikoma can design and supply single or multiple articulated discharge arms in order to suit different tank shapes and outlet sizes. Systems can be manufactured from a range of different materials including SS 316L, 6Mo, Super Duplex and Incolloy 825.



Flexible Hose Discharge



An alternative type of in-tank skimmer system uses a flexible discharge hose. The hoses coil under the skimmer to allow for height variation inside the tank. The system can be supplied with guide wires or a column in order to keep the skimmer fixed in lateral position. A composite discharge hose also included for arduous environments. Additional buoyancy is provided to maintain the skimmer for effective skimming operations.

The drawing to the left shows an in-tank skimmer system using a flexible discharge hose, an alternative to a swivel arm discharge

Other Skimmers

Crust Lance Skimmer



In some industrial applications such as refineries and petrochemical plants there are often tanks, waste pits, separators and interceptors that have been left with wastewater contaminated with hydrocarbons in them and this can lead to a crust being formed on the surface.

Our Crust Lance system allows operators to safely remove the crust and transport for disposal or reprocessing. It comprises a floating suction head and an electric driven transfer pump. Both the floating suction head and transfer pump are certified for use in hazardous areas.

Mop Skimmer



Our Mop skimmer effectively removes surface hydrocarbons from an oil/water interface for continuous operation or occasional use. Interchangeable mops can be provided to suit the viscosity of the recovered oil. These skimmers are ideally suited to oil recovery in difficult to reach areas and those areas inaccessible for larger skimmers. Portable or permanent installation units available. Benefits include:

- Long term continuous operation
- Easy to maintain, install and operate
- Can be used in deep pits and boreholes
- Suitable for most environments
- Mop length and size to suit
- Available with electric, hydraulic and pneumatic drive options.

Delta Skimmer



The Delta skimmer is a self-contained free floating oil recovery system for operation in shallow waters. Lightweight construction makes it particularly valuable around piers, jetties, lakes, ponds, ports, rivers and inland waters as well as for beach clean-up. Benefits include:

- Can be deployed in inaccessible areas
- Lightweight aluminium
- Can be used by a single, unskilled operator
- No moving parts and is therefore maintenance free
- Recovery rate of 24m³/hr

Powerpacks

The powerpack is the source that provides energy to rotate the oil skimmer discs for oil recovery and also the oil transfer pump. The powerpack is generally fitted with local controls and safety systems for placement within hazardous area. The system can also be connected to control systems. The powerpack can be fitted with a hazardous area control box that houses the skimmer controls, starter and alarms. Power generation options include:

- Electrohydraulic, pneumatic and diesel
- Intrinsically safe local control with remote override options

Electrohydraulic Powerpack



The Electrohydraulic Powerpack requires a 3 phase power supply. We produce hydraulic pressure and flow to drive the skimming system through an electric motor.

- Certified for use in hazardous areas
- Designed and manufactured for hazardous and harsh environments
- In-built safety systems

Pneumatic Powerpack



We have the option of using pneumatics to drive the skimming system or alternatively the option of using plant air to drive an hydraulic pump to provide hydraulic pressure and flow so the same format as the electrohydraulic system. These systems are particularly useful when electrical supplies are limited.

- Uses plant air
- Certified for use in hazardous areas
- Designed and manufactured for hazardous and harsh environments
- In-built safety system

Diesel Driven



Where there are limited or no utilities available we are able to provide a hazardous area certified diesel driven power source to provide hydraulic pressure and flow to the skimming system. The power source is fitted with the safety devices and control and can be trailer mounted for a mobile system. The powerpack is fitted with noise suppression and cooling systems for use in areas where there are noise restrictions.

- Diesel driven engine
- 12 hour running fuel tank
- Certified for hazardous areas
- Low noise package
- Skimmer and engine controls all mounted on the power pack

Permanent Protection Booms

Vikoma offers a range of booms (sometimes referred to as barriers) which can be deployed permanently to protect inlets, outlets or channels in industrial applications such as refineries. They can be used to prevent pollutants escaping or entering industrial facilities. Permanent booms are designed for long exposure deployment in sheltered waters.

Our booms do not require inflation, they are durable and are sealed with high density polyurethane floats to ensure buoyancy is maintained. They are also resistant to abrasion and marine growth. Vikoma Permanent booms have closed cell foam buoyancy members. Barriers available in neoprene, polyurethane or PVC belt and our protection booms can be used in conjunction with our skimming packages for a complete containment and recovery solution.

POD Booms

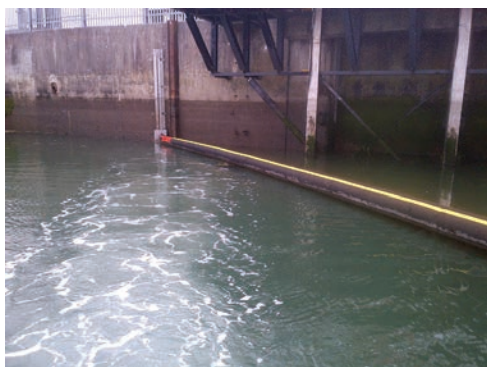
The tough permanently sealed floats are moulded in High Density Polyurethane (HDPU) that is highly resistant to impact and abrasion. The floats have been designed to bolt 'back to back' through the skirt. They may be supplied pre-fitted, or as separate parts, to maximise deployment rates or storage capacity.



- Robust design maintains continuous freeboard to contain oil or debris
- Tough materials have long life cycle and low maintenance
- Moulded pods provide excellent buoyancy and stability
- Easy to manoeuvre and position
- Easy deployment
- No inflation needed
- Constructed from strong, flexible materials.
- Operate in temperatures from -40°C to +90°C
- Ideal for permanent deployment

Neoprene Foam Filled Booms

Sentinel Foam Filled Boom comes with closed-cell foam filling to provide a robust and reliable containment boom solution which can be installed permanently or semi permanently to suit your requirements. This makes an ideal solution for the protection of areas of environmental concern, water intakes, evaporation ponds and high-risk oil-spill areas in and around ports



- Robust design maintains continuous freeboard to contain oil or debris
- Tough materials have long life cycle and low maintenance
- Easy to manoeuvre and position
- Easy deployment
- No inflation needed
- Internal closed cell foam buoyancy to ensure integrity even if neoprene outer layer is compromised
- Constructed from strong, flexible materials.
- Operate in temperatures from -40°C to +90°C
- Ideal for permanent deployment

Boom Accessories



Vikoma manufacture and supply an extensive range of ancillary equipment and products to support the boom layout of your facility. They include:

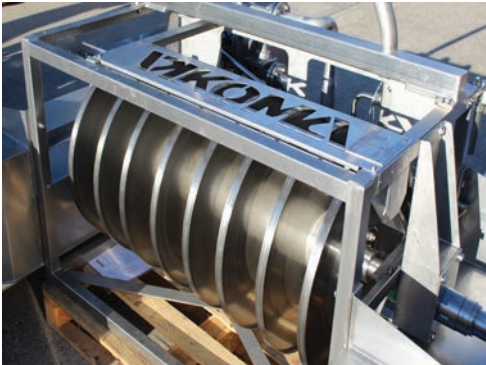
- Sliding systems
- Anchor sets
- Night lights and high visibility strips

Vikoma anchor pillars are designed to be used with Vikoma booms. They are used to secure booms to vertical walls and can be fitted to separators, inlets and outlets, drainage channels and culverts. The systems are designed to automatically adjust to varying water levels so that pollutants are effectively contained awaiting recovery.

The anchor pillars and floats are manufactured from 316 grade stainless steel so that they can be used in arduous environments.

Technical Information

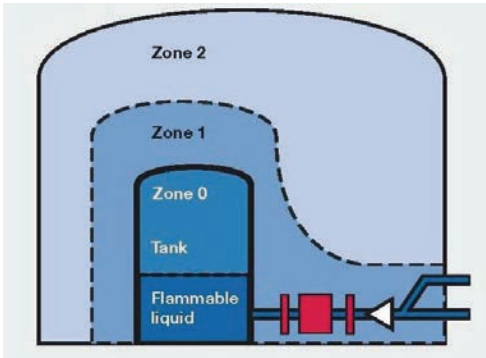
Materials



We offer systems in a number of materials to suit the operating environment these are typically:

- 316L stainless steel
- Super Duplex stainless steel
- 6Mo stainless steel
- Hazardous and dangerous environments
- PH levels, solvents, acids, temperature, caustic and H2S

Operating Areas



We can provide systems with certification for use in hazardous areas. These areas include Zone 0, Zone 1, Zone 2, 1 ATEX, Class 1 (Division 1 or 2) as well as country specific hazardous zone operating areas.

Temperature class and gas group also available along with voltage and plate

Value Of Recovered Oil



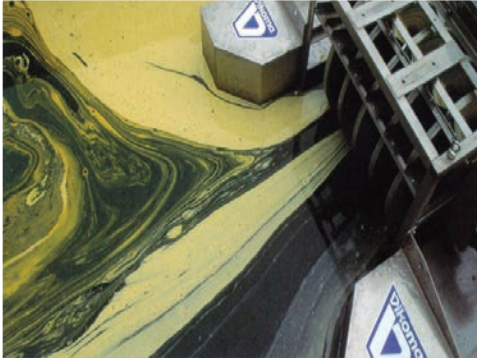
All hydrocarbons have value and Vikoma skimmers are able to recover different types of hydrocarbon with a very small water content, typically less than 2% water (98% + oil).

The hydrocarbons recovered using Vikoma skimmers can have many uses:

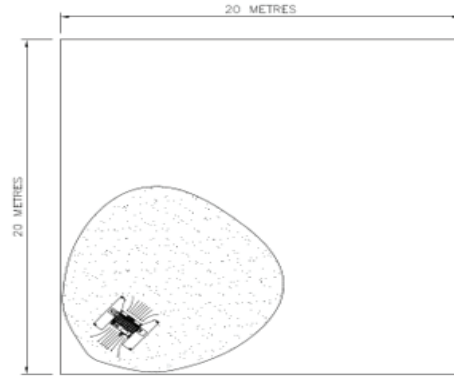
- Reused as feedstock in a refinery / petrochemical plant.
- Sold as waste oil.
- Power generation / steam generation or to power incinerators.

By reusing or selling the recovered oil Vikoma skimmers have a very quick payback period and the cost of the skimmer system can be realised in a matter of months.

Skimmer area of influence



Above : Shows oil being pulled into skimmer



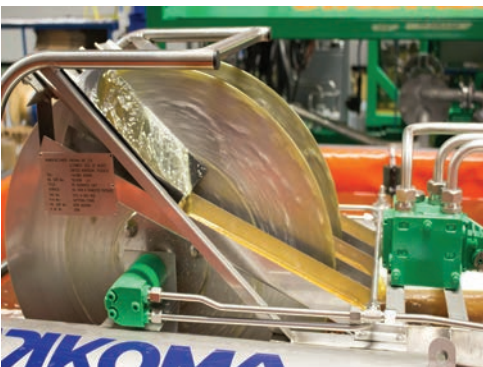
Above: Shows area of influence ie. the surface area a skimmer can pull in floating oil

The skimmer area of influence is the area from which the disc rotation alone will draw isolated oil patches into the skimmer.

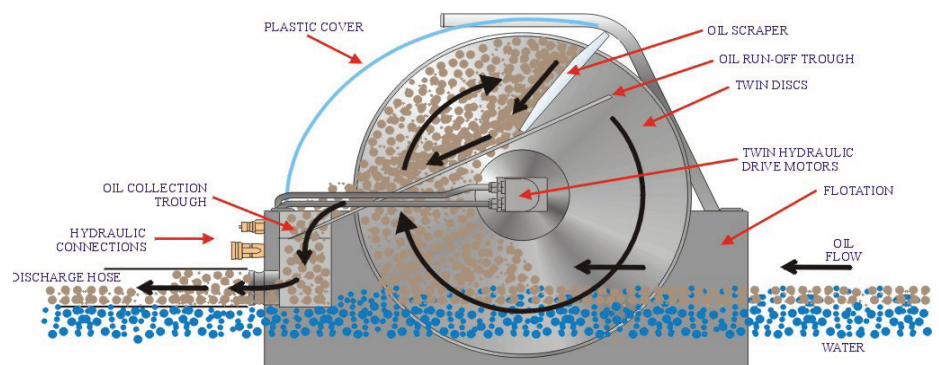
Diagram B shows the plan view of a Maxi Disc Skimmer within a pond with dimensions of 20 metres by 20 metres, the skimmer has been positioned to take advantage of the prevailing wind direction and the shaded portion shows the potential area of influence.

Disc skimmer efficiency

We offer highly efficient disc skimmers and also weir skimmers which are less efficient. Our disc skimmers have two disc types (see page 3) They work as follows: Oil sticks to the disc and water does not, oil is scraped off the disc to a hopper for discharge, typical weir skimmers / C pipe / Rota skim / skim pipe = >80% water



Above: Oil sticking to the disc and being scraped off.



Above: Typically 98% oil gets picked up with only 2% water

Safe operation



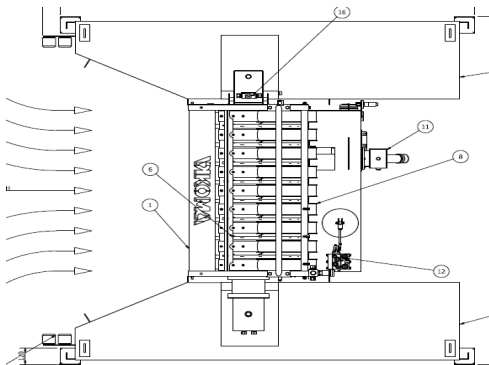
We design a number of safety features for safe operation in hazardous environments. These include:

- Hydraulic oil temperature.
- Pump temperature.
- Low hydraulic oil.
- Hydraulic pressure and pressure relief
- Electric motor overload protection.
- Earthing.
- IECEx, ATEX, Zone 0, Zone 1, Zone 2, Class 1 (Division 1 or 2) and country specific electrical requirements.
- We can also offer participation in HAZOP
- CE / UKCA Badging

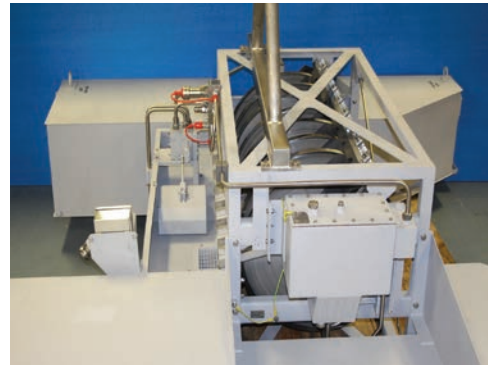
Pump Types and Control

Vikoma can provide multiple options when looking for pump solutions to meet your needs. These options include lobe pumps, positive displacement pumps, diaphragm pumps and vane pumps.

With a number of drive options including Electric, Hydraulic or Pneumatically Driven Pumps.



Above: Automatic pump control



Above: Float valve controlling the transfer pump

Our pumps can incorporate the following features:

- Automatic control of the pump
- Pump operation only when recovered oil is present which reduces wear on the pump which increases lifespan of the pump
- Designed for operation in hazardous areas
- No manual input required.
- Simple and easy to maintain.

Controls - switches / transmitters

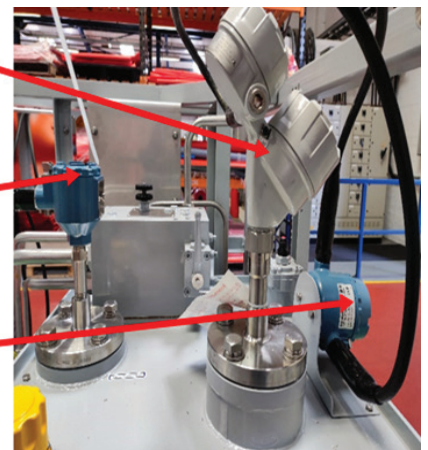


Above: Atex switch

Hydraulic oil low level Transmitter
(Magnetrol)

Hydraulic oil high temperature Transmitter
(Emerson)

Hydraulic oil high temperature Transmitter Display
(Emerson)



Above: Atex Transmitters

Vikoma electro-hydraulic powerpacks (EHPP) can be supplied with switches or transmitters for use in hazardous operating areas. Our pneumatic control units (PCU) can be supplied with switches or transmitters for use in hazardous operating areas. Examples of transmitters or switches include:

- Low hydraulic oil
- Oil temperature
- Pump temperature
- Effluent level

Services and Support

Commissioning and Installation



An experienced team of engineers are available for commissioning our equipment.

Services include:

- Equipment inspection
- Equipment set up and installation
- Pre start checks
- Safety
- Equipment training

Correct commissioning ensures that operators are fully trained in the safe use of equipment and are aware of essential maintenance requirements. Equipment is then ready for use.

Spares and Support



Many of our products are supported for 10 years with a full range of comprehensive spares kits available for emergency use as well as regular servicing. Products have unique serial numbers for full traceability. We recommend purchasing appropriate spares when buying equipment for efficiency but you can contact us at any stage of your product life and we will be pleased to help you. With on-going technical support and an extensive stock of spare parts and kits for both preventative and corrective maintenance, spares can be shipped quickly to site, ensuring minimum down time for equipment.

Repairs and Refurbishment



We offer a full repair and refurbishment service to prolong the life of your product and keep costs down. As well as cost advantages this can be an environmentally friendly solution keeping your carbon footprint down. With a full range of in-house production capabilities, we can service and refurbish booms, skimmers, replacement product and powerpacks and this can reduce lead times compared to buying a replacement product. Our customers have been delighted with the service offered and quality of refurbished products.

Maintenance and Servicing



Regular servicing and maintenance of equipment is key to prolonging it's life and ensuring it operates correctly. Equipment can be returned to our factory for maintenance and servicing, or we may be able to provide these services at your site. Our experienced team of servicing and commissioning engineers are qualified for offshore, confined spaces and working at height. They can also train your team in maintenance activities.

We will help you to support a move towards a circular economy and keep equipment in use for as long as possible.





Protecting our environment over 50 years



Providing reliable and innovative oil recovery and environmental solutions designed and manufactured by our experienced in-house team for over 50 years

We are proud to have an experienced and qualified team of employees. With a strong and experienced board of directors and a multi-disciplined management team, Vikoma continues to be a world leading company committed to delivering quality, reliability and innovation.

Our in-house team has many years of experience in systems for hazardous areas and offer solutions to meet end user needs with required certification. We are confident that we have the flexibility and experience required to meet the technical specification of any end user.

Full ISO 9001:2015 accreditation for design, manufacture, installation, commissioning and training.

For more information please contact us on +44 (0)1983 200560 or sales@vikoma.com or see our website.



Oily Water Skimming • Powerpacks • Protection Booms

We have an ongoing development program and reserve the right to amend the specification of our products without prior notice. All quoted specifications are approximate. Issue 4 310523



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