

LEVEL 2 BBBEE CONTRIBUTOR | BLACK WOMAN OWNED



PORTABLE FUEL

# STORAGE TANK SOLUTIONS



[WWW.ORCAFUELS.CO.ZA](http://WWW.ORCAFUELS.CO.ZA)

# ABOUT US

ORCA FUEL SOLUTIONS IS AFRICA'S LEADING INNOVATIVE FUEL STORAGE SOLUTIONS COMPANY.

WE ARE THE LEADING MANUFACTURERS OF ENGINEERED SELF BUNDED TANKS, REMOTE REFUELLING SYSTEMS, BULK FUEL FARMS AND PLUG AND PLAY DISPENSING SOLUTIONS.

FROM DIESEL, PETROL, LUBRICANTS, HFO, JET A1 AND AVGAS STORAGE, ORCA FUEL SOLUTIONS WILL DESIGN AND MANUFACTURE A UNIQUE, ROBUST, TURNKEY, PLUG AND PLAY SOLUTION TO MEET YOUR SITE REQUIREMENTS.

OUR TEAM OF ENGINEERS, WORKSHOP PERSONAL, SITE TECHNICIANS AND SALES PERSONAL ARE AT YOUR SERVICE TO DESIGN, ENGINEER, MANUFACTURE AND INSTALL YOUR UNIQUE SOLUTION.

AS A PROUDLY SOUTH AFRICAN, WOMEN OWNED AND MANAGED COMPANY, WE PRIDE OURSELVES ON PROVIDING OUR CUSTOMERS WITH THE HIGHEST QUALITY PRODUCTS DELIVERED IN A TIMELY AND PROFESSIONAL MANNER.

WE UNDERSTAND THE CHALLENGES OF MANAGING AND STORING FUEL IN THE AFRICAN ENVIRONMENT. OUR TEAM'S ATTENTION TO DETAIL THROUGHOUT THE PRODUCT DESIGN, DELIVERY, INSTALLATIONS AND MAINTENANCE, HAVE BROUGHT ORCA FUEL SOLUTIONS TO THE FRONT OF THE FUEL STORAGE INDUSTRY WITH OUR INNOVATIVE FUEL STORAGE SOLUTIONS.

WELCOME TO THE WORLD OF ORCA FUEL SOLUTIONS.



[WWW.ORCAFUELS.CO.ZA](http://WWW.ORCAFUELS.CO.ZA)

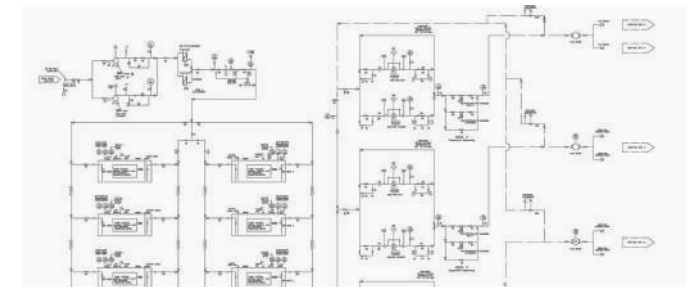
LEVEL 2 BBBEE CONTRIBUTOR  
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# CAPABILITY

## DESIGN & ENGINEERING

Orca Fuel's in-house, specialist engineering and drafting team has the capability to prototype, develop and tailor projects prior to production.



## MANUFACTURING & FABRICATION

Direct factory intergration, as well as on-shore manufacturing and fabrication facility, allows Orca Fuels to tailor projects to you, with no middle man.



## FUEL TANK SUPPLY

Orca Fuel is an industry-leading fuel tank supplier and industry-leading provider of self bunded fuel tank solutions.



## TANK FARMS

Orca Fuel provides modular, scalable, intelligently designed self bunded tank farms, for the bulk storage of diesel, ULP, lubricants and other liquids.



## INSTALLATION

Orca Fuel's fuel tank installation experts offer market-leading onsite installation and commissioning services.



# INDUSTRIES



INNOVATIVE FUEL STORAGE SOLUTIONS



## ONSITE REFUELLING

Provides hassle free, on site refuelling for large / small scale construction, mining and logistic equipment. No civil work or bund wall required on site. Easy to relocate. Minimise refuelling distance and equipment optimisation.



## FUEL FARMS

Interconnecting tanks together for unlimited storage capacity. Increase capacity as fuel requirement increases with kit form, interconnecting pipework. Easy to relocate or split tanks and fuel locations as projects requirements change.



### APPLICATIONS



FUEL FARMS



PORTABLE ENERGY



ONSITE REFUELLING



## PORTABLE ENERGY

Rapid deployment for standby power and extending running times.





# O SERIES

Offering effortless connectivity and a reduced Environmental footprint. Our tanks can be used in several industries; Aviation, Fuelfarm set-ups, lubrication, diesel and petrol installation and power generation installations. The unique design of the tank can offer a split compartment solution, where one tank can store up to 3 different products without the risk of contamination. Thus giving not only a dynamic solution but an efficient compact solution.

The O-series tank is a stationary bulk fuel tank that can offer efficient fuel storage solution whilst giving a dynamic solution to a wide range of industries.



## O-12

12,000 LITRE TANK SFL : 11,240

2,991mm (L) x 2,438mm (W) x 2,896mm (H)

4,848 kg (Empty) 20,079 kg (Full)



## O-30

30,000 LITRE TANK SFL : 29,350

6,058mm (L) x 2,438mm (W) x 2,896mm (H)

4,916 kg (Empty) 22,183 kg (Full)



## O-68

68,000 LITRE TANK SFL : 65,570

12,192mm (L) x 2,438mm (W) x 2,896mm (H)

8,660 kg (Empty) 44,838 kg (Full)



## O-75NPB

75,000 LITRE TANK SFL : 73,500

12,192mm (L) x 2,438mm (W) x 2,896mm (H)

8,676 kg (Empty) 46,495 kg (Full)



# ORCA CUBE

The Orca Cube OST Range is a fuel storage tank which offers a flexible solution for storing combustible liquid and dispensing fuel. It's practical and precision engineered design ensures fast, easy and reliable installation in any location of environment with minimal preparation and site works. A place-fill-and-pump installation offers versatility and speed of on-site commissioning.



OST 1  
1,000 LITRE TANK

1,800mm (L) x 1,090mm (W) x 1,300mm (H)

870 kg



OST 2  
2,500 LITRE TANK

2,300mm (L) x 1,700mm (W) x 1,300mm (H)

1,230 kg



OST 4  
4,500 LITRE TANK

2,800mm (L) x 2,300mm (W) x 1,300mm (H)

1,740 kg



OST 6  
6,000 LITRE TANK

3,600mm (L) x 2,300mm (W) x 1,300mm (H)

2,150 kg



OST 10  
10,000 LITRE TANK

6,000mm (L) x 2,400mm (W) x 1,300mm (H)

4,450 kg

# PUMP PACKAGES



## LOADERS

TANKER TO TANK LOADING

FLOWRATES RANGING FROM 300LPM TO 1200LPM

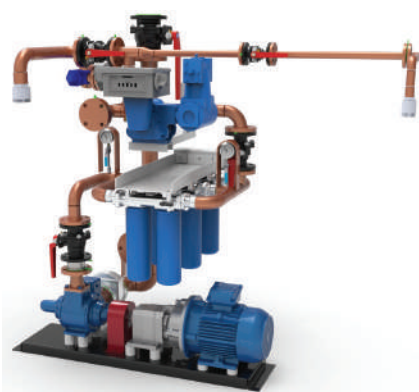
WIDE RANGE OF FILTRATION AND METERING OPTIONS



## LUBRICATION

FLOWRATES RANGING FROM 44LPM TO 105LPM

INCLUDES HOSE REEL WITH 10M HOSE AND NOZZLE



## REFUELLERS

MEDIUM AND INDUSTRIAL REFUELLING

FLOWRATES RANGING FROM 80LPM TO 450LPM

MEDIUM AND HEAVY VEHICLE REFUELLING

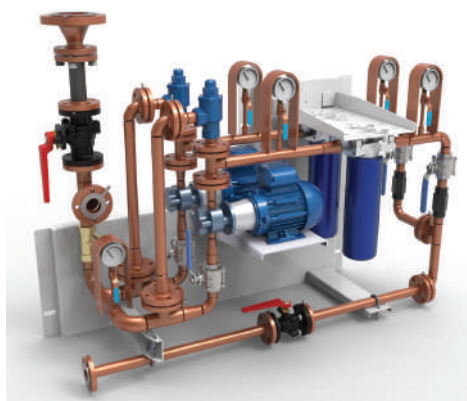


## HOME BASE REFUELLING

LIGHT AND MEDIUM VEHICLE REFUELLING

FLOWRATES RANGING FROM 40LPM TO 130LPM

REFUEL MORE THAN ONE PRODUCT AT ONCE

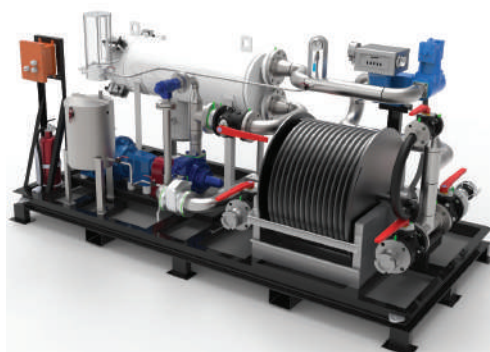


## GEN FEED

LOCAL AND INDUSTRIAL GENERATOR FEED

FLOWRATES RANGING FROM 32LPM TO 110LPM

MANUAL AND AUTOMATED OPTIONS



## AVIATION

AIRCRAFT REFUELLING

FLOWRATES RANGING FROM 80LPM TO 500LPM+

AVAILABLE AS DIESEL OR ELECTRICALLY DRIVEN

JIG COMPLIANCE

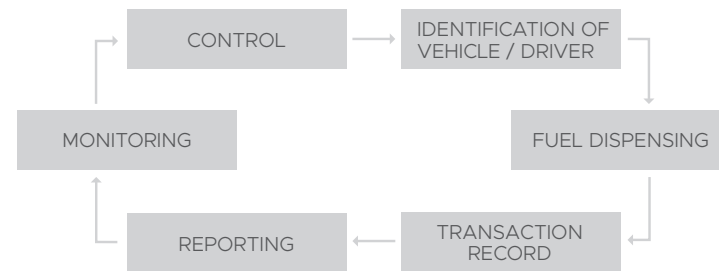


# FUEL MANAGEMENT

## OVERVIEW OF FUEL MANAGEMENT

**Fuel Management is a cycle of activities**

- Control access to fuel
- Record fuel transactions
- Easy access of transactional data in a useful format



## THE SMART FUEL GEN 2 RANGE

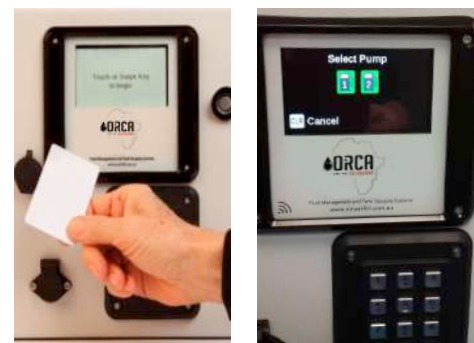
- A solution for the complete fuel management cycle
- State of the art fuel management system built on a reliable, embedded hardware platform
- Can store up to 5000 transactions and up to 2000 vehicles and drivers
- Uses NFC (near field communication) fobs or cards.
- Users can be prompted for odometer, hourmeter, job number and a user defined input for each transaction or selected transactions.
- Power system specifically designed to cater with unstable power and provide a level of protection from lightning strikes
- Remote upgrade capability allows new features and functions to be added without a site visit
- Extensive diagnostic information accessible to tech support personnel via the web enables quick and accurate fault diagnosis
- Modular design provides for easy upgrade or repair in the field



CLICK-IN CLICK-OUT

## REFUELLING

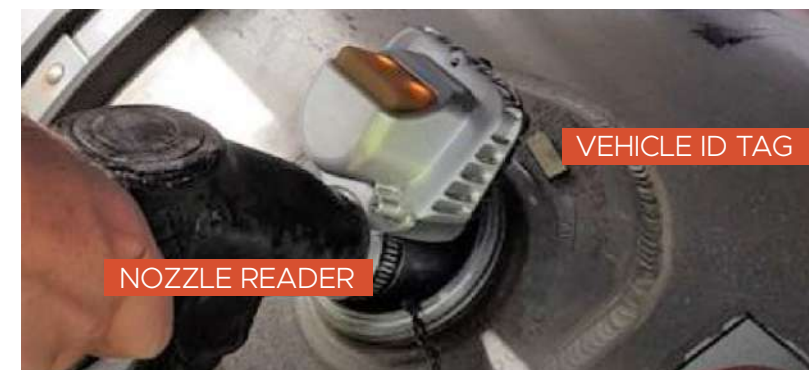
1. Operator identifies vehicle/ equipment using a card or fob.
2. Operator authorizes themselves using a PIN
3. If required, operator enters odometer and/or hourmeter
4. Selects pump, lifts nozzle and starts refuelling
5. When finished refuelling transaction details are stored in unit and transferred to the customer's website automatically



TWO PUMP  
OPTION DISPLAY

## NOZZLE ID – AVID SYSTEM

- The Smart fuel system can currently use keys (RFID fobs), magnetic swipe cards, HID cards or codes to identify vehicles/assets.
- The Automatic Vehicle Identification System (AVID) allows the identification device to be mounted on the vehicle and the reader to be mounted on the nozzle



## NOZZLE ID – COMPONENTS

1. Smart fuel Gen 2 FMS with required pump control modules
2. Comms (Bluetooth) module, SFM2055, one installed in each Smart fuel
3. Nozzle Transceiver, AVID1000, one per nozzle
4. Vehicle passive Tags –adhesive UHF tag for vehicle identification



## WHAT ARE WE DOING DIFFERENT?

- Most other nozzle ID system simply authenticate continuously
- Unless the system is finely tuned, this can limit the ability to remove the nozzle from the fuel inlet without the authorisation being terminated
- It also tends to drain the battery on the nozzle in a relatively short amount of time.
- Our design uses an inertial measurement unit (IMU) on the nozzle, which doesn't require continuous authentication with the nozzle and allows us to detect the nozzle's movement and terminate the transaction before the nozzle exits the fuel inlet. This increases battery life and makes the system less likely to be defeated when attempts are made to take unauthorised fuel.

# FUEL MANAGEMENT

## TELEMATICS MODULE

1. Connects to vehicles ODB port and automatically transmits odometer/hourmeter data to the Smart fuel automatically during the refuelling process
2. Ensures the value shown on the dashboard at the time of refuelling is the same as the value recorded with the fuel transaction. Unlike GPS based system no variance or need for calibration
3. No more driver entry errors



## WEBSITE

- Website provided for each customer at no charge
- Transactional data from the unit is combined with other data such as rego number, driver's name and displayed on a transactions page
- Driver and vehicle details managed from website and automatically updated on all units
- Transaction report can be exported as .csv file

WEBSITE: PRO VERSION

- **Provides customisable/automated reports**
- Totals – used to generate reports such as total fuel by vehicle or driver used per week of month. The reports can be customised to whatever the customer wants totalled and then saved for regular use.
- Reconciliation – You need to have tank gauging fitted to the unit(s) to use this report. It takes the tank level at the beginning of the requested time period ( current week, previous month etc) subtracts all the transactions from the tank, add the deliveries, generates a calculated level for the tank and compares that to the dip at the end of the time period.
- Consumption – Using the entered odometer data and the fuel usage to calculate the litres/100Km value for each vehicle for litres/hour for equipment using hourmeters.
- Service – Generates a report showing vehicles nearing or overdue for service based on entered service interval, odometer at last service and using the odometer values entered by the drivers.
- Provides the ability to email tank levels on a daily/weekly basis and any of the reports that have been created

>	92649	92649					EGTC	N/A	N/A
>	92943	92943					EGTC	N/A	N/A
>	0105007C	22354					AGT	6.97	N/A
>	0105A67B	21907					AGT	7.21	N/A
>	010DA57B	21902					AGT	7.18	N/A
>	01102E7C	22355					AGT	7.40	N/A
▼	01129D7B	20601					AGT	6.67	N/A

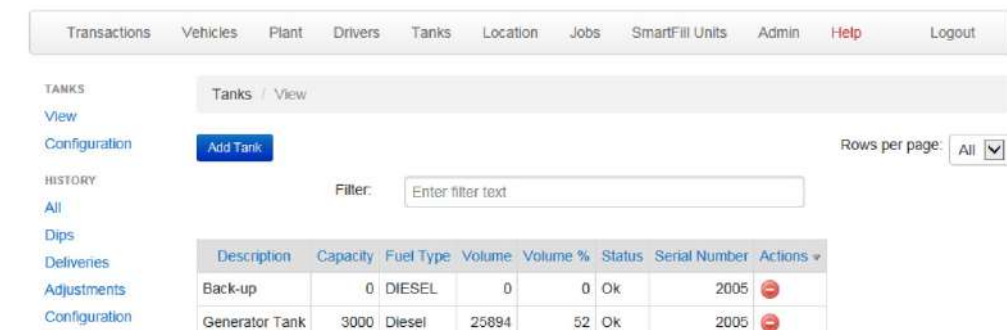
Key / Code	Timestamp	Imperial Gallons	Odometer	Hours	Pump	Employee Name	PLATE NO.	COMPANY NAME	Transaction Id	KM/L	Gallons / Hour
01129D7B	2019-03-03 19:26:54	74.44	847800	0	3	ISIDRO DE LEON TOLENTINO	20601	AGT	3645003661	N/A	N/A
01129D7B	2019-03-03 19:27:11	68.35	847800	0	2	ISIDRO DE LEON TOLENTINO	20601	AGT	3645003662	N/A	N/A
01129D7B	2019-03-06 10:31:45	56.79	848406	0	3	ISIDRO DE LEON TOLENTINO	20601	AGT	3645003902	N/A	N/A
01129D7B	2019-03-06 10:32:01	33.34	848406	0	2	ISIDRO DE LEON TOLENTINO	20601	AGT	3645003903	6.72	N/A
01129D7B	2019-03-09 09:30:30	69.68	849392	0	3	ISIDRO DE LEON TOLENTINO	20601	AGT	3645004128	N/A	N/A

## ACCESSING DATA



## OPTIONAL TANK GAUGING - SMARTDIP

- If the unit is on line, tank levels can be viewed on the website in close to real time (update every 90 secs)
- Tank Alerts allow an email or SMS\* to be sent showing current status and alert users if tank is too low or high.



## 10 KEY DIFFERENTIATORS

1. Most current technology on the market – NFC, standard data SIMs, colour graphics display.  
A platform that allows for future development
2. Single solution for both mobile and fixed equipment
3. Highly flexible and intuitive solution that allows the customer to capture the most appropriate data for their business
4. No charge for access to data on website
5. Easy to configure via intuitive on screen menus
6. Modular design – easy repair and upgrade by skilled and unskilled staff
7. Automated nozzle identification technology for convenience and theft protection
8. Automated odometer/hourmeter solution that is not GPS based
9. Application Programming Interface (API) available to allow customers to integrate data into their own applications
10. Tech support for the life of the product

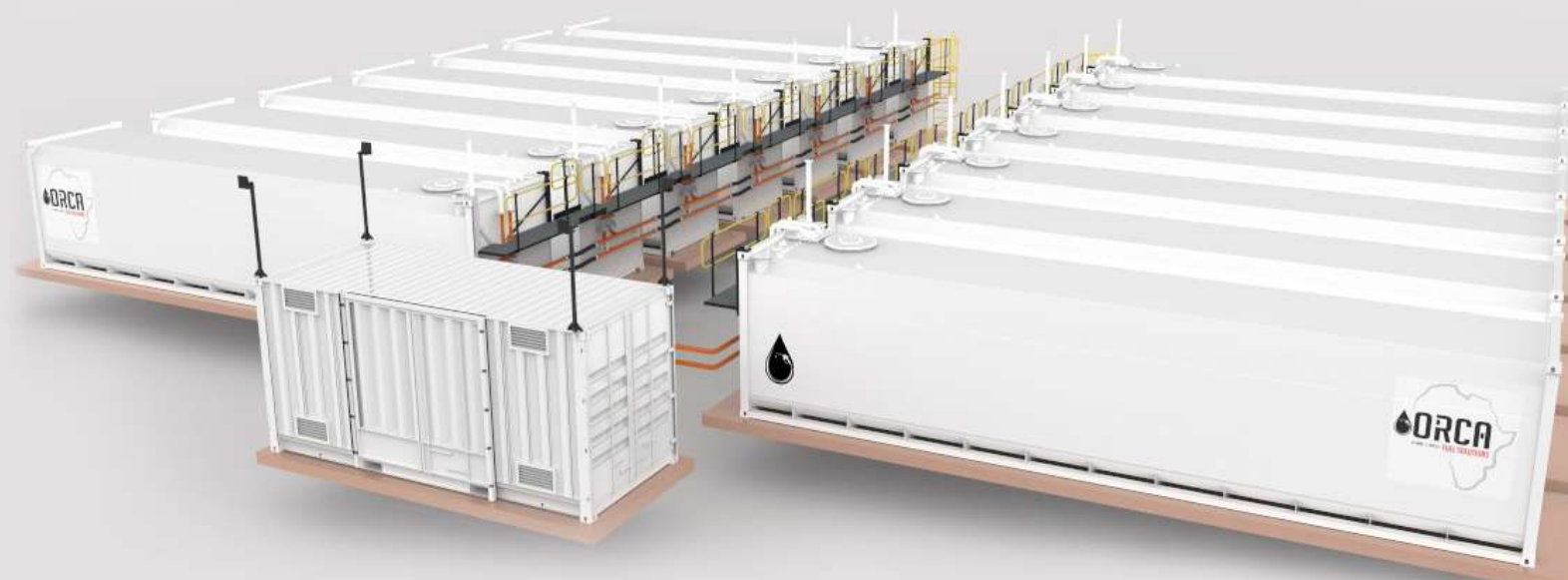


# ENGINEERED

## SOLUTIONS

The experience and expertise of Orca Fuel's in-house design and engineering team are available to design your unique fuel storage and dispensing solution.

Optimising fuel refuelling time and ensuring your fuel is where you need it, when you need it.



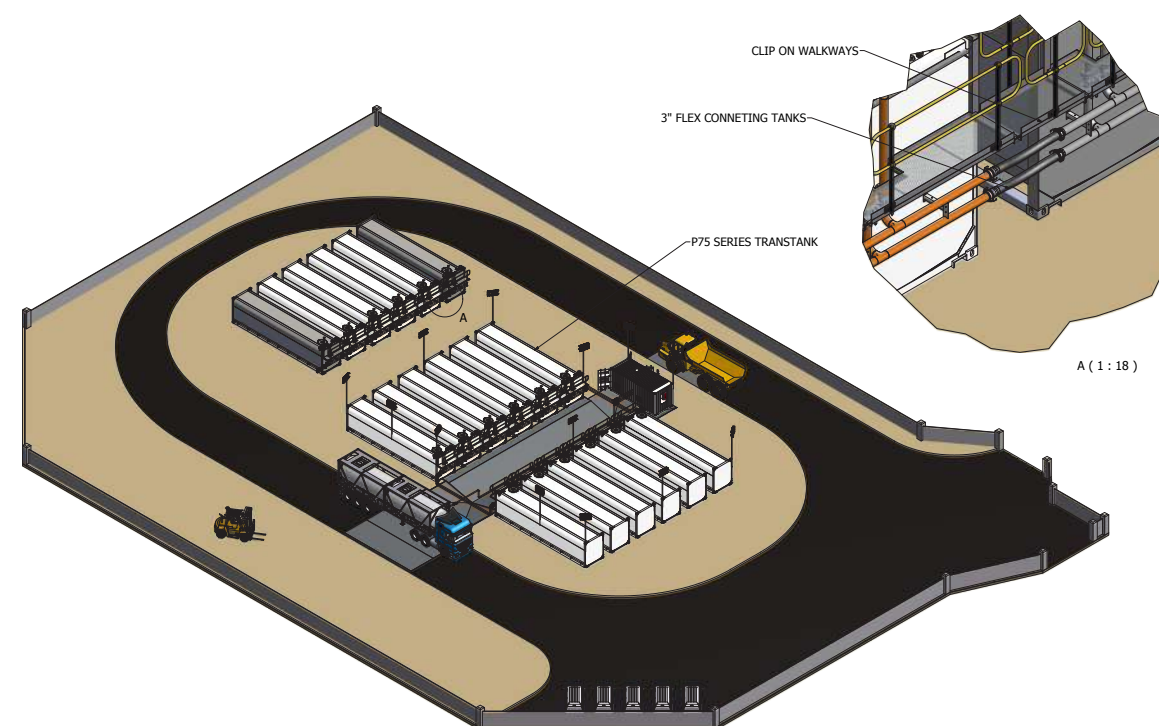
**O-SERIES**  
- TOTAL CAPACITY 134,000L  
- SELF BUNDED  
- 6MM CORTEN STEEL  
- INDUSTRIAL MARINE COATED



**PP-INDREF 80+450**  
- HV REFUELING @450LPM  
- LV REFUELING @ 80LPM  
- OEM MECHANICAL METER  
- FILTRATION



**PP-LOADER 800**  
- 800LPM OFFLOADING  
- OEM MECHANICAL METER  
- BULK FILTRATION

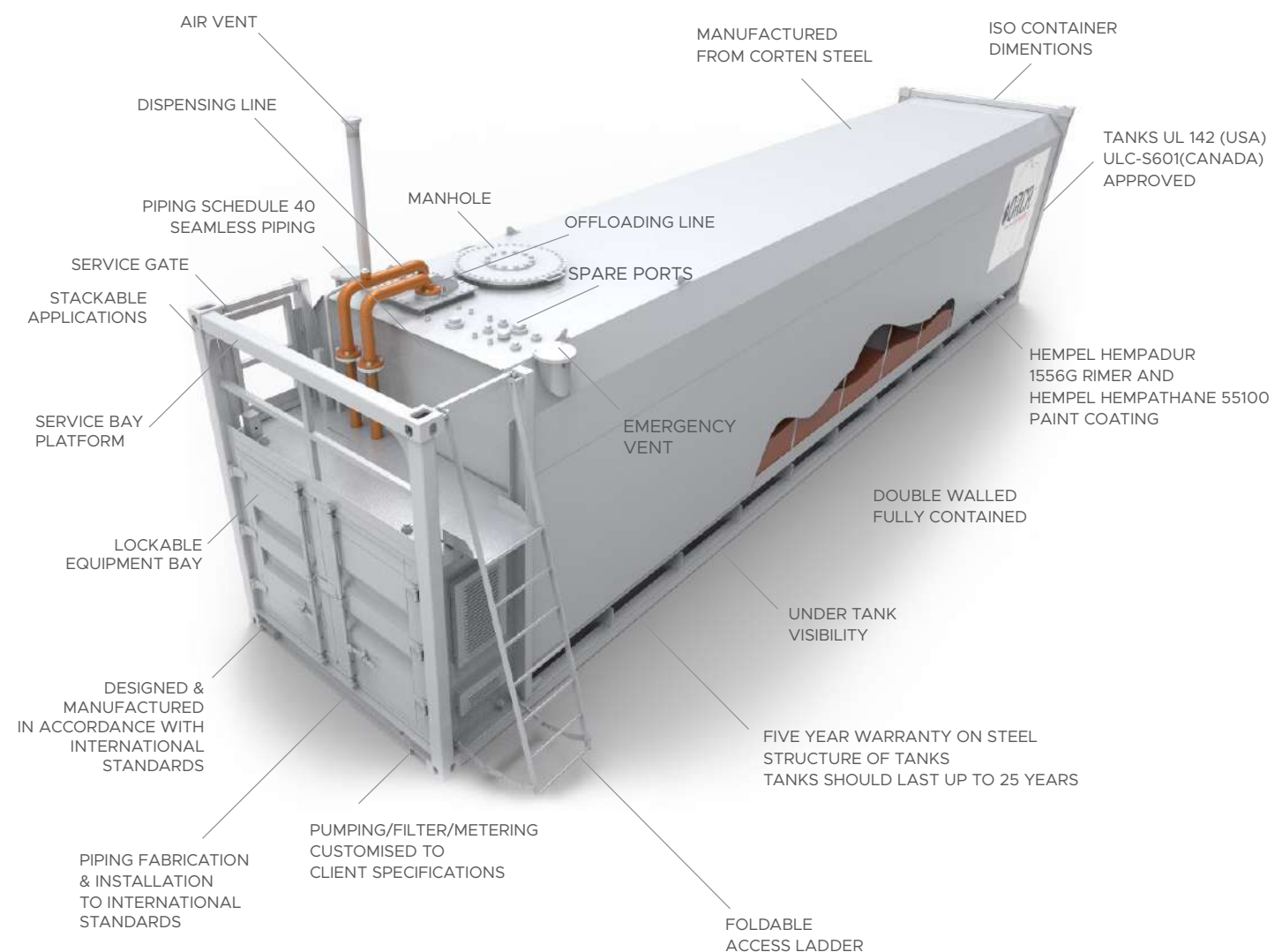


OUR SELF-BUNDED - DOUBLE-WALLED

TANK ARRANGEMENT

CERTIFICATION

PERSPECTIVE SHOWING THE TANK ARRANGEMENT



ULC-S601-14

The Canadian acceptable standard for shop fabricated steel aboveground tanks for flammable and combustible liquids.



AS 1692

Australian standard for steel tanks for flammable and combustible liquids.

AS1692

AS 1940

Australian standard for the storage and handling of flammable and combustible liquids.

AS1940

The USA / NA Recognized Standard for Safety: steel aboveground tanks for flammable and combustible liquids.



NFPA

National Fire Protection Association: Flammable and combustible liquids code applicable in the USA.



TRANSPORT CANADA

Department responsible to serve the public interest for developing regulations, policies, programs and services to promote safe, secure, efficient and environmentally responsible transportation in Canada.



VLAREM II

Flemish environmental regulation; Chapter 5.1 for oil or petroleum products.

VLAREM

UN IBC 31 A/Y

The United Nations approved international standard on design, manufacture and use of intermediate bulk containers for the transportation of dangerous goods. The UN IBC 31A/Y is applicable to the use of specially fabricated steel tanks that allows the legal transport of dangerous good by road, rail and sea, packaging groups II & III.



UN IMDG

Carriage of dangerous goods by sea is regulated in order reasonably to prevent injury to persons or damage to ships and their cargoes. Carriage of marine pollutants is primarily regulated to prevent harm to the marine environment. The objective of the IMDG code is to enhance the safe carriage of dangerous goods while facilitating the free unrestricted movement of such goods.





# CASE STUDIES

## COLD STACKING OIL RIG CASE STUDY

### CHALLENGE

Cold stacking is where a rig is stored at minimum expense. There will still be a minimum level of attention needed, for example there has to be security staff to prevent vandalism. General inspections, waterproofing and repairs need to be done to avoid the rig becoming dangerous, or for some materials leaking or falling into the ocean. Staff that live on the oil rig have to manage under extreme conditions. Having a diesel generator with a sufficient diesel storage supply is critical in maintaining a constant power supply. The remote nature of the location of oil rigs is often met with very intermittent and unreliable fuel delivery supply.



### SOLUTION

Orca Fuels team designed a UL 142 approved, self-bundled, ISO container, 30 000L diesel storage tank to supply diesel to the main generators. An industrial feed pump set was designed and incorporated into the tank along with an integrated, automatic, tank level gauging system. The entire tank/pump system combined with the safe interlocks, ensured the safe, secure and automated fuel delivery from the main tank to the generators. All pumping equipment, filtration and level gauging was preinstalled into the tank along with the electrical panels and piping. Zero installation was required onsite, besides simply connecting the power to the electrical panel and the connection of the quick couplings between the tank and the generator.



### RESULT

Having a large fuel storage to supply the generator with constant, reliable and safe fuel supply has allowed the staff to stay permanently without the concern of power outages. With uninterrupted power supply, the cold stacking oil rig crew run a much more efficient and effective operation.



“ORCA FUEL SOLUTIONS PROVIDED A FIRST CLASS PRODUCT AND WE WERE VERY HAPPY WITH THE SERVICE WE RECEIVED.”

## INPIT REFUELLING CASE STUDY

### CHALLENGE

With the current push back in progress and the pit advancing deeper in the North and South, the team had been tasked with investigation of the optimization of refuelling the rubber tyre equipment on site. Current refuelling takes place at the traditional fuel farm close to the workshop and admin offices. The distance from the pit to the fuel farm is on average 1750m, impacting truck productivity, utilization and fuel burn.



### SOLUTION

To alleviate this it was proposed to install two remote fueling stations designed by Orca Africa. The self-bundled fuel tanks, with remote refuelling pumps, were placed at strategic locations in close proximity to the pit, where they could easily be refuelled by the tanker and not be affected by blasting operations.



### RESULT

By strategically placing the remote refuelling stations closer to the pit, this reduced the vehicle refuelling distance and time, resulting in a dramatic reduction in the operation cost and in turn an increase in machinery productivity. In conclusion, a total saving of \$171,000.00 per annum and a return on investment was realised in the first 9 months.



“TOTAL SAVING OF \$171 000 PER ANNUM & ROI WAS REALISED IN THE FIRST 9 MONTHS”

# OUR TEAM

# WHY US...



**BONITA BOTHA**  
GENERAL MANAGER  
BONITA.BOTHA@ORCAFUELS.CO.ZA



**JACKY SHAPIRO**  
MANAGING DIRECTOR  
JACKY.SHAPIRO@ORCAFUELS.CO.ZA



**BRADLEY CLAASSEN**  
TECHNICAL SALES MANAGER  
BRADLEY.CLAASSEN@ORCAFUELS.CO.ZA



**THEMBI DODA**  
INTERNAL SALES CO-ORDINATOR  
THEMBI.DODA@ORCAFUELS.CO.ZA



**VIRGINIA RANISI**  
COMPANY ADMINISTRATOR  
INFO@ORCAFUELS.CO.ZA



**JUSTIN SHUB**  
SERVICE AND SALES MANAGER  
JUSTIN.SHUB@ORCAFUELS.CO.ZA



**MARGI KNIPE**  
CUSTOMER LIASON MANAGER  
MARGI.KNIPE@ORCAFUELS.CO.ZA



**MATHEMBA GOQWANA**  
SENIOR TECHNICIAN  
MATHEMBA.GOQWANA@ORCAFUELS.CO.ZA



**SHADRACK KHOZA**  
SENIOR TECHNICIAN  
SHADRACK.KHOZA@ORCAFUELS.CO.ZA



**CARYN VIEDGE**  
SALES & ACCOUNTS SUPPORT MANAGER  
CARYN.KIRSTEN@ORCAFUELS.CO.ZA

Orca Fuel Solutions is Africa's leading Fuel Storage Solutions company.

We manufacture and market a range of products suitable for the storage of diesel, petrol, DEF and lubricants. Our tanks, commercial/retail refuelling pumps and fuel management systems are well designed to meet the robust Africa environment.

Our dedicated team of technicians, engineering and sales personnel have more than a hundred combined years' experience in the industry, and are able to engineer solutions to meet your requirements. From design, to installation and fuel management, we have the knowledge and experience to create the perfect solution for your project.

**"We provide portable fuel storage tank solutions from design to installation"**

**Amera Kebede**

**Tristar - Group**

In addition to financial saving, I can also see the environmental effect this solution has by reducing the carbon foot print.

This is just in one installation and I was thinking of the effect if similar thinking goes to other projects. There is always room for improvement..



**Ebenezer Ayernor**

**Build - HAAP Ghana Ltd.**

With regards to the works executed at the Canadian High Commission in Ghana, Build-HAAP Ghana is very pleased with the work done. Communication between you and us was very effective, hence enabling us to achieve our goal.

We are very glad we had a team like yours.

Looking forward to working with you on similar projects.



**Peter Hatten**

**West Eclipse**

The tank will certainly be well utilised within our fleet.

Should the Eclipse gain a contract, we are in the position to ship the container elsewhere to other countries around the world. Seadrill appreciates the good responses we have had over the last few months.







HOSE REEL RACK



LIGHT AND HEAVY VEHICLE REFUELLING



80 + 450 DISPENSING



INPIT REFUELLER



LUBRICATION WORKSHOP



COMPLETE FUEL SOLUTION



SPLIT COMPARTMENT TANKS. PETROL / DIESEL AND PARAFFIN



# CONTACT US

## PHYSICAL ADDRESS:

TRANSNET NARROW GAUGE YARD,  
POMMERN ROAD,  
HUMERAIL, PORT ELIZABETH

## CONTACT DETAILS:

HEAD OFFICE T: +27 11 626 3607  
AFRICA T: +27 60 967 7382  
UK T: +44 79 0082 8372  
[INFO@ORCAFUELS.CO.ZA](mailto:INFO@ORCAFUELS.CO.ZA)

[WWW.ORCAFUELS.CO.ZA](http://WWW.ORCAFUELS.CO.ZA)

