

# 'The Vikoma MiniVac Systems - portable recovery systems for the collection of spilt oils and floating contaminates'

## What are the key features and benefits of this system?

- The flexibility and lightweight construction of the MiniVac system allows the components to be lifted by two people.
- The modular arrangement can be assembled and operated quickly and easily.
- Diesel power and high speed air systems ensure that the MiniVac is completely safe for use in most disaster areas.
- The MiniVac Basic system is ideal for rapid clean-up operations in the most remote and inaccessible areas and has a recovery rate of **24m<sup>3</sup>/hr** as independently witnessed by Lloyds assessors.
- The MiniVac Plus system has the additional benefit that recovered fluids can be pumped away from the contamination site to transport tankers without the need for temporary storage tanks or drums.
- The compact design of the equipment makes it easy to store and transport.
- The MiniVac system has been used successfully around the globe and has proven to be extremely effective with very low maintenance.
- The MiniVac system was developed and tested to meet demanding design and performance criteria established following recent major oil spills.

[www.vikoma.com](http://www.vikoma.com)



88 Place Road  
Cowes  
Isle of Wight  
PO31 7AE  
United Kingdom

### VIKOMA UK HQ:

**Tel:** +44 (0)1983 200560  
**Fax:** +44 (0)1983 200561  
**email:** [sales@vikoma.com](mailto:sales@vikoma.com)

### VIKOMA RUSSIA & FSU:

**Tel:** +7 495 741 4817  
**Fax:** +7 495 741 4818  
**email:** [moscow@vikoma.com](mailto:moscow@vikoma.com)

### VIKOMA MIDDLE EAST:

**Tel:** +971 508 214979  
**Fax:** +971 255 27818  
**email:** [emirates@vikoma.com](mailto:emirates@vikoma.com)

### VIKOMA NORDIC:

**Tel:** +46 (0)31 744 3554/55  
**Fax:** +46 (0)31 223 556  
**email:** [nordic@vikoma.com](mailto:nordic@vikoma.com)

### VIKOMA ASIA PACIFIC:

**Tel:** +65 6890 6093  
**Fax:** +65 6890 6092  
**email:** [asiapacific@vikoma.com](mailto:asiapacific@vikoma.com)



MV/B/3.02

As Vikoma has an ongoing development program, we reserve the right to amend the information contained in this brochure without prior notice. All quoted dimensions and quantities are nominal. If equipment is required for operation in Zoned areas, please contact Vikoma International Ltd



## THE MINIVAC SYSTEM

The ultimate lightweight, portable vacuum recovery system.



# Vikoma

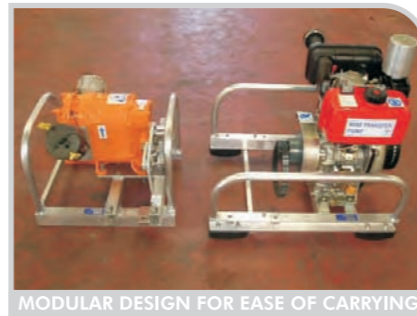
Technology for a Cleaner Environment

# THE MINIVAC SYSTEM

**What is it?** - The MiniVac system is a lightweight, aluminium, hand portable vacuum recovery system for the collection of spilt oils and floating contaminants. It is a unique modular system, available in three standard formats:

- 1) MiniVac Basic - a complete operational system comprising MiniVac, vacuum receptor, hoses and suction lance.
- 2) MiniVac Plus - an enhanced system, including all the MiniVac Basic equipment with an additional Mini transfer pump unit to empty the vacuum receptor to discharge.
- 3) MiniVac Plus Containerised - a custom built container housing all MiniVac Plus components.

Each MiniVac system has been designed to enable rapid clean-up in inaccessible areas and has a recovery rate of 24m<sup>3</sup>/hr.



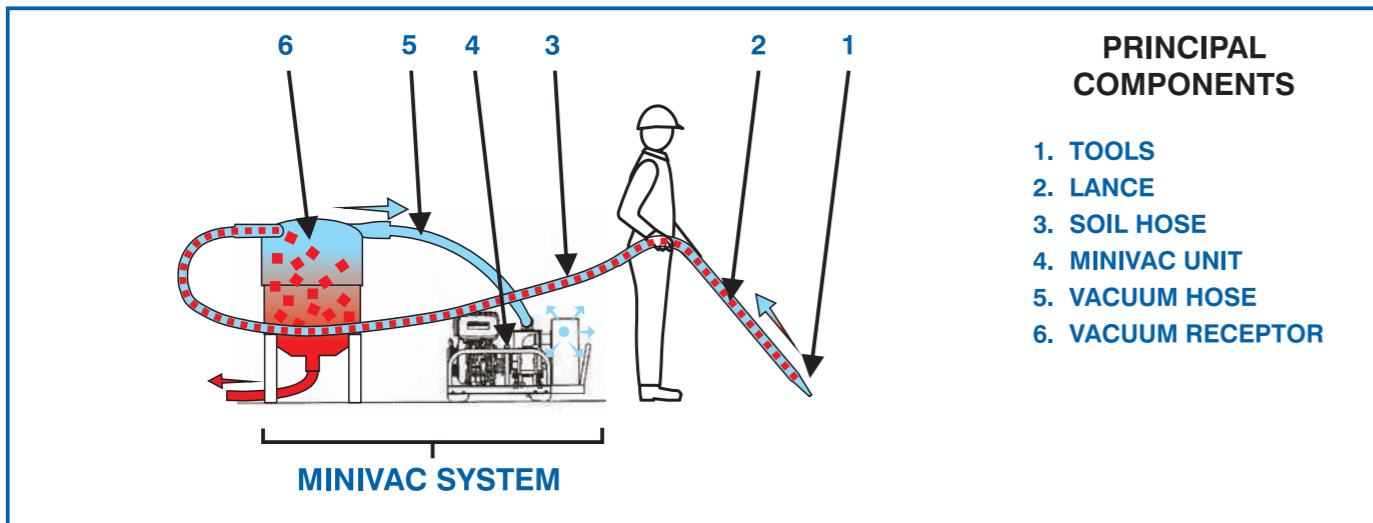
MODULAR DESIGN FOR EASE OF CARRYING

**Where is it used?** - The MiniVac system can be lifted by two people and this makes it ideal for use in remote and inaccessible sites; for example where conventional skimmers could not operate, where wheeled trailers would be unable to negotiate the terrain or where the recovery with absorbents would be too costly. This includes rocky beaches, ponds & lakes, marshland, harbours and industrial pits. The MiniVac system has been successfully employed in locations all around the globe with emergency response organisations, Coast Guards, Fire Brigades and Port Authorities.



MINIVAC BEACH CLEAN-UP

## MiniVac



MINI TRANSFER PUMP ASSEMBLED

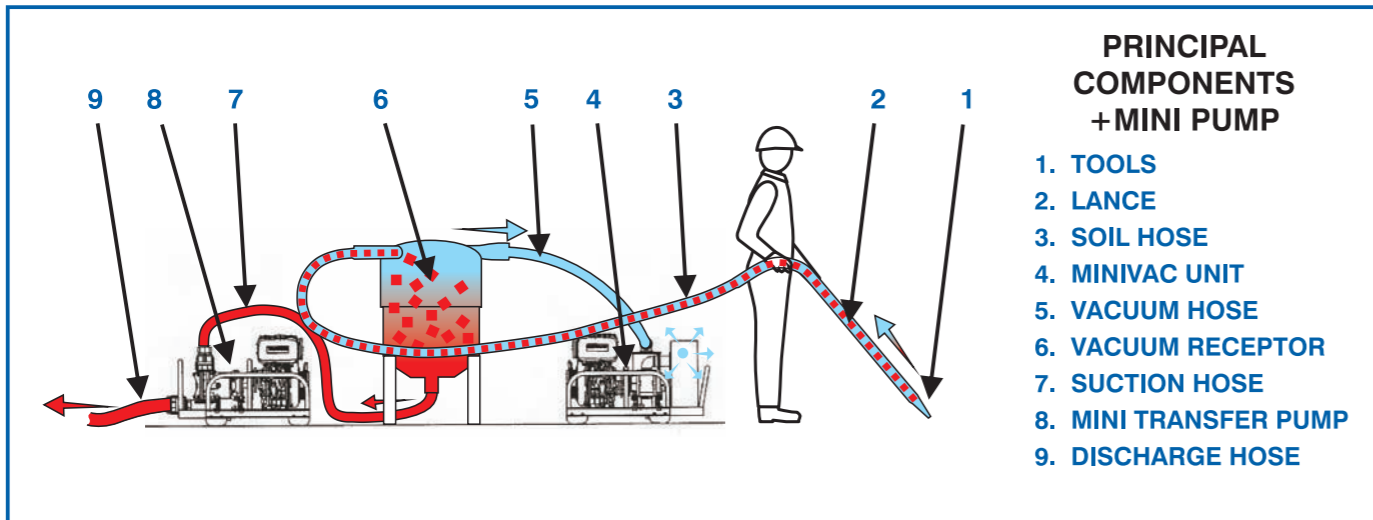
**How does it work?** - The MiniVac Basic system provides initial air/vacuum recovery of fluids via a suction lance and



MINIVAC PLUS VERSION

hose to a vacuum receptor. The standard vacuum receptor comprises a dedicated, self-contained mini-hopper and vacuum head, although this can be customised to fit any particular user requirements. The MiniVac Plus system adds a positive displacement Mini pump to transfer recovered contaminants away from the disaster area - either to further pumping modules or direct to storage tanks.

## MiniVac Plus



**Which oils will it recover?** - The MiniVac system recovers a wide range of light to medium oils including diesels and emulsions, plus the ability to handle debris.



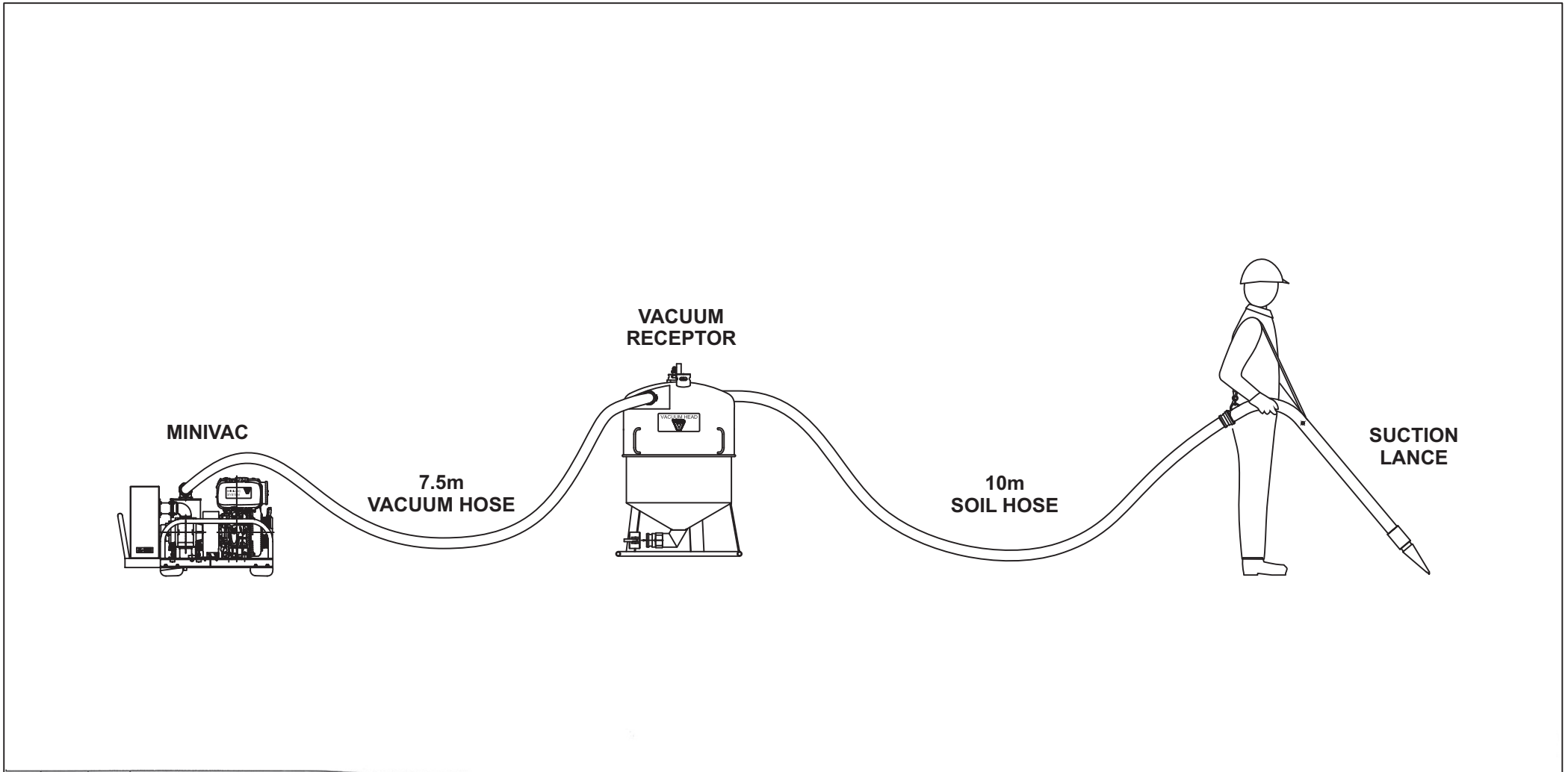
MILITARY USE OF MINIVAC


**Who can operate the system?** - One of the unique features of the MiniVac and the MiniVac PLUS systems is the ability of both the MiniVac and the Mini transfer pump units to be easily separated into two units. This ensures that the whole system can be readily transported by two people into inaccessible areas, and falls within the EU manual handling recommendations.



10FT ISO CONTAINERISED MINIVACS

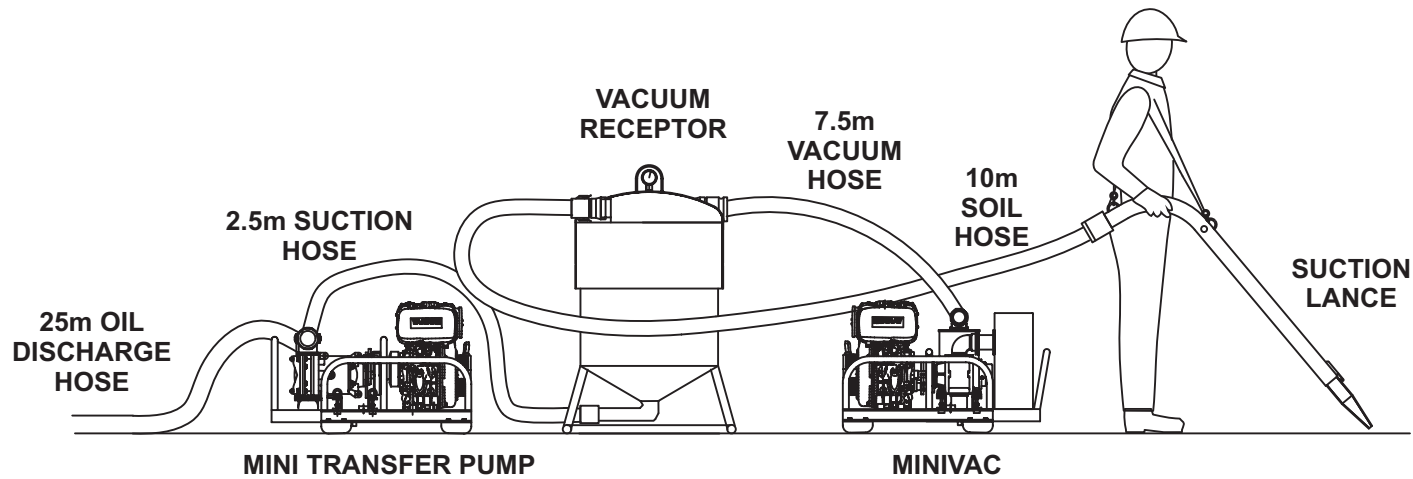
# MINIVAC - BASIC SYSTEM LAYOUT



			 DO NOT MODIFY MANUALLY	MATERIAL  SEE LISTINGS	SCALE NTS	UNLESS OTHERWISE STATED 1 DO NOT SCALE 2 REMOVE DIMENSIONS & DIMENSIONS FROM DRAWING 3 DIMENSIONS BY MILLIMETRES 4 DIMENSIONS BY METRES 5 DIMENSIONS BY FEET AND INCHES 6 DIMENSIONS BY FEET AND INCHES 7 DIMENSIONS BY FEET AND INCHES 8 DIMENSIONS BY FEET AND INCHES 9 DIMENSIONS BY FEET AND INCHES 10 DIMENSIONS BY FEET AND INCHES 11 DIMENSIONS BY FEET AND INCHES 12 DIMENSIONS BY FEET AND INCHES 13 DIMENSIONS BY FEET AND INCHES 14 DIMENSIONS BY FEET AND INCHES 15 DIMENSIONS BY FEET AND INCHES 16 DIMENSIONS BY FEET AND INCHES 17 DIMENSIONS BY FEET AND INCHES 18 DIMENSIONS BY FEET AND INCHES 19 DIMENSIONS BY FEET AND INCHES 20 DIMENSIONS BY FEET AND INCHES 21 DIMENSIONS BY FEET AND INCHES 22 DIMENSIONS BY FEET AND INCHES 23 DIMENSIONS BY FEET AND INCHES 24 DIMENSIONS BY FEET AND INCHES 25 DIMENSIONS BY FEET AND INCHES 26 DIMENSIONS BY FEET AND INCHES 27 DIMENSIONS BY FEET AND INCHES 28 DIMENSIONS BY FEET AND INCHES 29 DIMENSIONS BY FEET AND INCHES 30 DIMENSIONS BY FEET AND INCHES 31 DIMENSIONS BY FEET AND INCHES 32 DIMENSIONS BY FEET AND INCHES 33 DIMENSIONS BY FEET AND INCHES 34 DIMENSIONS BY FEET AND INCHES 35 DIMENSIONS BY FEET AND INCHES 36 DIMENSIONS BY FEET AND INCHES 37 DIMENSIONS BY FEET AND INCHES 38 DIMENSIONS BY FEET AND INCHES 39 DIMENSIONS BY FEET AND INCHES 40 DIMENSIONS BY FEET AND INCHES 41 DIMENSIONS BY FEET AND INCHES 42 DIMENSIONS BY FEET AND INCHES 43 DIMENSIONS BY FEET AND INCHES 44 DIMENSIONS BY FEET AND INCHES 45 DIMENSIONS BY FEET AND INCHES 46 DIMENSIONS BY FEET AND INCHES 47 DIMENSIONS BY FEET AND INCHES 48 DIMENSIONS BY FEET AND INCHES 49 DIMENSIONS BY FEET AND INCHES 50 DIMENSIONS BY FEET AND INCHES 51 DIMENSIONS BY FEET AND INCHES 52 DIMENSIONS BY FEET AND INCHES 53 DIMENSIONS BY FEET AND INCHES 54 DIMENSIONS BY FEET AND INCHES 55 DIMENSIONS BY FEET AND INCHES 56 DIMENSIONS BY FEET AND INCHES 57 DIMENSIONS BY FEET AND INCHES 58 DIMENSIONS BY FEET AND INCHES 59 DIMENSIONS BY FEET AND INCHES 60 DIMENSIONS BY FEET AND INCHES 61 DIMENSIONS BY FEET AND INCHES 62 DIMENSIONS BY FEET AND INCHES 63 DIMENSIONS BY FEET AND INCHES 64 DIMENSIONS BY FEET AND INCHES 65 DIMENSIONS BY FEET AND INCHES 66 DIMENSIONS BY FEET AND INCHES 67 DIMENSIONS BY FEET AND INCHES 68 DIMENSIONS BY FEET AND INCHES 69 DIMENSIONS BY FEET AND INCHES 70 DIMENSIONS BY FEET AND INCHES 71 DIMENSIONS BY FEET AND INCHES 72 DIMENSIONS BY FEET AND INCHES 73 DIMENSIONS BY FEET AND INCHES 74 DIMENSIONS BY FEET AND INCHES 75 DIMENSIONS BY FEET AND INCHES 76 DIMENSIONS BY FEET AND INCHES 77 DIMENSIONS BY FEET AND INCHES 78 DIMENSIONS BY FEET AND INCHES 79 DIMENSIONS BY FEET AND INCHES 80 DIMENSIONS BY FEET AND INCHES 81 DIMENSIONS BY FEET AND INCHES 82 DIMENSIONS BY FEET AND INCHES 83 DIMENSIONS BY FEET AND INCHES 84 DIMENSIONS BY FEET AND INCHES 85 DIMENSIONS BY FEET AND INCHES 86 DIMENSIONS BY FEET AND INCHES 87 DIMENSIONS BY FEET AND INCHES 88 DIMENSIONS BY FEET AND INCHES 89 DIMENSIONS BY FEET AND INCHES 90 DIMENSIONS BY FEET AND INCHES 91 DIMENSIONS BY FEET AND INCHES 92 DIMENSIONS BY FEET AND INCHES 93 DIMENSIONS BY FEET AND INCHES 94 DIMENSIONS BY FEET AND INCHES 95 DIMENSIONS BY FEET AND INCHES 96 DIMENSIONS BY FEET AND INCHES 97 DIMENSIONS BY FEET AND INCHES 98 DIMENSIONS BY FEET AND INCHES 99 DIMENSIONS BY FEET AND INCHES 100 DIMENSIONS BY FEET AND INCHES	VIKOMA <sup>®</sup> INTERNATIONAL LIMITED	
							DRAWN PK	TITLE <b>MINIVAC BASIC SYSTEM LAYOUT</b>
				DATE 231106				
ISSUE	DATE	CHANGE No.	CHANGE		PRINT CHK'D NP			

THIS DRAWING IS THE CONFIDENTIAL PROPERTY OF VIKOMA<sup>®</sup> INTERNATIONAL LTD. AND MUST NOT BE REPRODUCED IN ANY MEDIA WITHOUT THE EXPRESS WRITTEN PERMISSION OF VIKOMA<sup>®</sup> INTERNATIONAL LIMITED.

# MINIVAC - PLUS SYSTEM LAYOUT



				<p>DO NOT MODIFY MANUALLY</p>	MATERIAL  SEE LISTINGS	SCALE NTS	UNLESS OTHERWISE STATED 1 DO NOT SCALE 2 REMOVE DIMENSIONS & DIMENSIONS FROM DRAWING 3 DIMENSIONS BY MILLIMETERS 4 DIMENSIONS BY INCHES 5 DIMENSIONS BY FEET AND INCHES 6 DIMENSIONS BY METERS 7 DIMENSIONS BY FEET AND METERS 8 DIMENSIONS BY METERS 9 DIMENSIONS BY FEET AND METERS	VIKOMA <sup>®</sup> INTERNATIONAL LIMITED		
						DRAWN PK		DATE 231106	TITLE <b>MINIVAC PLUS                  SYSTEM LAYOUT</b>	DRG. No. MVP/SL/3.01
ISSUE	DATE	CHANGE No.	CHANGE			PRINT CHK'D NP		TOLERANCES ± 0.2 ± 0.4 ± 0.5		

THIS DRAWING IS THE CONFIDENTIAL PROPERTY OF VIKOMA<sup>®</sup> INTERNATIONAL LTD. AND MUST NOT BE REPRODUCED IN ANY MEDIA WITHOUT THE EXPRESS WRITTEN PERMISSION OF VIKOMA<sup>®</sup> INTERNATIONAL LIMITED.



Certificate Number: SOU 9900390/2  
 Office: SOUTHAMPTON  
 Date: 13/10/99  
 Page: 1 of 2

This certificate is issued to VIKOMA INTERNATIONAL LTD. to certify that, at their request, the undersigned Surveyor did attend their premises at Cowes, Isle of Wight on the 28/9/99 and 30/9/99 for the purpose of witnessing the Flow Rate Testing of the Mini Vac Pump (Test 1) and the Full Mini Vac Transfer System Operational Test (Test 2) of the following items:

### Test 1

Description	Quantity
Vikoma Mini Vac System	1 (ONE IN NUMBER)

This arrangement of the Vikoma Mini Vac System incorporates a Mini Vac vacuum pump system (450 mBar pump powered by a LS OAE - D 4.4 kW max continuous output Diesel Engine), 7.5 m length of 2 inch bore semi-rigid vacuum air hose, the Vikoma Mini Vac Hopper and Dome, a 10.0 m length of 2.5 inch bore semi-rigid soil hose and a 1.5 m standard lance.

### Scope of Survey

Lloyd's Register was requested to attend as a third party witness to the flow rate testing of the Vikoma Mini Vac System. Trials were conducted to determine the time taken for the Mini Vac Pump to recover and discharge oil identified as Oily Water, Energol CS22, Energol CS220, Esso Residual Fuel Oil.

Each test involved the recovery of 'X' litres of the specified oil from a calibrated container, for which the recovery time was measured. Two runs of each test oil were performed with the average figure taken as being the performance obtained. Oily water viscosity is assumed not to be temperature dependent. The oil temperature was measured before each pumping test. The ambient air temperature was 17.0 °C.

Oil viscosity was estimated, from the values determined by the Paragon Scientific Ltd. and SGS Redwood (UK) Ltd. (laboratory services) analytical report, for the relevant oil temperature prior to pumping.

### Test Results:

OIL TYPE	TEST NO.	OIL TEMP. PRIOR TO TEST (°C)	OIL VISCOSITY (cST)	SYSTEM VACUUM PRESSURE (mbar)	VOLUME RECOVERED (LITRES)	TIME (secs) TO RECOVER 'X' LITRES	CALCULATED RECOVERY (m³/hour)
Energol CS22	1	14.3	-	-500	100	15.7	-
	2	14.3	-	-500	100	14.6	-
	Average	14.3	70	-500	100	15.2	23.7
Energol CS220	1	14.9	-	-500	100	99.7	-
	2	15.0	-	-500	100	101.1	-
	Average	15.0	1100	-500	100	100.8	3.57
Esso Residual F. O.	1	14.2	-	-500	40	184	-
	2	15.7	-	-500	40	216	-
	Average	15.0	13000	-500	40	200	0.72

FORM 1124 (11/98)

Lloyd's Register of Shipping, registered office: 71 Fenchurch Street, London EC3M 4BS

THIS DOCUMENT IS SUBJECT TO THE TERMS AND CONDITIONS OVERLEAF

CORPORATE CERTIFICATE PAPER - TYPE C (12/98)



## VIKOMA INTERNATIONAL LTD

88 Place Road, Cowes, Isle of Wight, PO31 7AE. United Kingdom

Tel: +44 (0)1983 200560

Fax: +44 (0)1983 200561

email: sales@vikoma.com

www.vikoma.com



cont.

Certificate Number: SOU 9900390/2  
Office: SOUTHAMPTON  
Date: 13/10/99  
Page: 2 of 2

## Test 2

<i>Description</i>	<i>Quantity</i>
Vikoma Mini Vac Transfer System	1 (ONE IN NUMBER)

This arrangement of the Vikoma Full Mini Vac Transfer System incorporates a full oil drum, a 2.5 m length of 3 inch bore semi-rigid oil transfer hose, Oil Transfer Pump (rotary pump powered by a L7 OAE - S 4.4 kW max continuous output Diesel Engine), a 2.5 m length of 2.5 inch bore semi-rigid pump suction hose, the Vikoma Mini Vac Hopper and Dome, leading to a 5.0 m length of 2 inch bore semi-rigid vacuum air hose, the Vikoma Mini Vac vacuum pump system (450 mBar pump powered by a LS OAE - D 4.4 kW max continuous output Diesel Engine). The Vikoma Mini Vac Hopper and Dome also leads to a 10.0 m length of 2.5 inch bore semi-rigid soil hose, a 1.5 m standard lance, and an oil drum containing oil.

### *Scope of Survey*

Lloyd's Register was requested to attend as a third party witness to the flow rate testing of the Vikoma Mini Vac System. Trials were conducted to determine whether it is possible for the Full Mini Vac Transfer System to recover and discharge oil identified as Energol CS220.

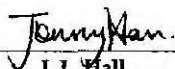
The ambient air temperature was 17.0 °C.

Oil viscosity was estimated, from the values determined by the Paragon Scientific Ltd. and SGS Redwood (UK) Ltd. (laboratory services) analytical report, for the relevant oil temperature prior to pumping.

### *Test Results:*

It was found that the Vikoma Full Mini Vac Transfer System was capable of discharging Energol CS220 Oil with a total distance from suction to discharge of 17 m.

The Vikoma Test Report No. PD 010, dated 6.10.99 was duly endorsed.

  
J. L. Hall  
Surveyor to Lloyd's Register

FORM 1124 (11/98)

Lloyd's Register of Shipping, registered office: 71 Fenchurch Street, London EC3M 4BS

THIS DOCUMENT IS SUBJECT TO THE TERMS AND CONDITIONS OVERLEAF



## VIKOMA INTERNATIONAL LTD

88 Place Road, Cowes, Isle of Wight, PO31 7AE. United Kingdom

Tel: +44 (0)1983 200560

Fax: +44 (0)1983 200561

email: [sales@vikoma.com](mailto:sales@vikoma.com)

[www.vikoma.com](http://www.vikoma.com)

