

A.T.Juniper (Liverpool) Ltd.

**General and technical information
parts catalogue
and related information**



**JUNIPER
PRODUCT MANUAL
JMP/KYOTO/D/6777/C200**

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**Trailer Mounted KYOTO Containment Mat
Juniper part no. JMP/KYOTO/D/6777/C200**

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SECTION 1.0
HEALTH AND SAFETY

1.1 HEALTH AND SAFETY INFORMATION

Warning, Caution and Note:



'WARNING' is used in this document to identify tasks that if carried out incorrectly may cause serious injury to persons.

'CAUTION' is used in this document to identify tasks that if carried out incorrectly may cause damage to equipment.

'NOTE' is used in this document to inform the user of other non-H&S related issues.

1.2 USER INFORMATION

- The KYOTO containment mat warranty will be invalidated if unapproved spare parts, lubricants, or cleaning agents are used. Using such items may create a hazard and cause the efficiency and the service life of the Mat to be reduced.
- Failure to maintain the KYOTO containment mat correctly or modifying it without prior approval from A.T. Juniper may also create a hazardous condition.
- Every effort has been made both in the design of the KYOTO Containment mat and in the preparation of these instructions to protect the end user from possible dangers.
- The majority of accidents can be avoided if basic safety precautions and procedures are adhered to.

1.3 GENERAL HEALTH AND SAFETY



WARNING:

- Any persons operating or carrying out any type of maintenance work on this KYOTO containment mat must use safe engineering working practices and abide by local and appropriate Health and Safety Regulations.
- In order to comply with your responsibilities under the H&S at Work Act, The Provision and Use of Work Equipment Regulations, and the Pressure Systems Safety Regulations it is essential that KYOTO Containment mat is, operated, inspected, and maintained, by competent persons, in accordance with the Regulations and this document.

The KYOTO containment mat must only be used with compressed air or nitrogen gas. It is the responsibility of the local supervisor to ensure that people operating or maintaining the Mat have:

- A detailed knowledge of the mat prior to use.
- Read and fully understood the contents contained in this document.
- Been made aware of the inherent dangers of compressed nitrogen and the compressor wash fluid etc.
- Ensure that the General Operating Instruction panel is clearly observable.
- Check that there are no signs of damage to the unit, associated pipe work and fittings prior to commencing work.

Safety devices fitted to the system should be checked at regular intervals and replaced if faulty. They should not be tampered with or modified. To ensure the rig operates safely, the specified maintenance procedures must be carried out.

Extreme caution should be taken if the rig has been subjected to severe operating temperatures or fire. Certain components may contain hazardous materials and under these conditions can leave extremely corrosive residues. Severe burns and permanent skin and tissue damage can be a result from skin contact

1.4 WHEN OPERATING THE KYOTO CONTAINMENT MAT



WARNING:

- Do not use the Rig in temperatures below 0°C.
- Do not remove or release pipe work or fittings whilst the mat is in use.
- Do not allow nitrogen jets, discharged from any pipe or nozzle, to make contact with your body.
- Do not breathe spray mist.
- Do not use the air/nitrogen for breathing purposes.
- Hazardous vapours/fumes can be produced if compressed air is used to remove chemicals, cleaning agents, and lubricants from equipment and components. Suitable respiratory and extraction equipment may be required in these circumstances.
- Never use compressed air for cleaning personal clothing.
- Compressed nitrogen is dangerous; it can be fatal if misused.
- Wear suitable face, eye, and hand protection when decanting Compressor wash fluid.
- Wear appropriate eye, face, and hand protection when operating the mat.
- Wear suitable protective clothing when operating the mat.
- Always inspect the mat before use (Particularly after transportation).

1.5 BEFORE MAINTAINING THE KYOTO CONTAINMENT MAT



WARNING:

- Ensure that the mat has been safely turned off from the air/nitrogen supply and cannot be turned on until all work has been completed.
- Do not undertake any work on the mat until it has been relieved of all pressure.
- Check that all pressure gauges read zero. Do not proceed until they do.

1.6 COMPRESSOR WASH FLUID : FIRST AID, HANDLING AND STORAGE

This note is for general guidance only. It is recommended that the full safety data sheets for the fluid be obtained from the manufacturer/supplier

NOTE: The mat is only to be used with approved fluids.



WARNING:

General advice

Do not inhale fumes, vapours or oil mists. Do not swallow. Avoid contact with eyes. Always wash hands after use and before eating, drinking, smoking, and using the toilet.

Contact with skin

Remove contaminated clothing immediately. Wash affected parts with soap and water and rinse thoroughly. Contaminated clothing should be laundered before re-use. Seek medical attention if irritation persists.

Pressure injection

Obtain immediate medical attention, even if injury appears minor.

Contact with eyes

Immediately wash with plenty of water for at least 15 minutes.
Irrigate eyes thoroughly whilst lifting eyelids.
Seek immediate medical attention.
Refer to operating Instructions for the correct set-up procedure.

Ingestion

Do not induce vomiting.
Rinse mouth out with water (do not swallow).
Do not induce vomiting.
Seek immediate medical advice.

Inhalation

Remove patient to fresh air.
Seek medical attention if ill effects occur.

Handling and storage

Prevent the formation of aerosols.
Store away from oxidising agents.
Wash hands after use.
Avoid close or prolonged contact with the skin.
Wear suitable hand protection.

Spillages

Slip hazard on leaked/spilled product.
Wear protective clothing.
Do not allow oil to enter public sewers and watercourses.
Do not allow fluid to penetrate the ground/soil.

Waste Disposal

Any waste fluid should be disposed of in accordance with local bylaws and the requirements of the Environmental Protection Act.
Do not allow fluid to contaminate water supplies.

1.7 TRANSPORTATION AND HANDLING THE KYOTO CONTAINMENT MAT**CAUTION:**

- Always ensure the Unit remains in the upright position.
- Always ensure the tank is empty.
- Always check the hose/cables are secured in their appropriate stowage.
- Always securely fasten down rig to avoid any movement in transit.
- Always check the unit for damage after transportation.

1.8 CHECKING AND COMMISSIONING**CAUTION:**

Carry out the following visual inspection detailed below prior to putting the mat into use for the first time. Visually examine the components and structure of the unit for any damage that may affect safety and/or functionality.

- Examine all nuts, bolts and screws for presence and security.
- Examine pipe joints, unions and hose connections for security.
- Examine all hoses for security of fixings and freedom from damage.
- Ensure the fluid and air hoses are correctly stowed.

- Examine paintwork for freedom from damage.
- Examine wheels for security and freedom of rotation.

- Examine pressure gauge for security, correct operation, and freedom from damage.
- Examine the fluid tank for security of fixing and damage.
- Ensure all safety-warning signs are present and legible.
- Ensure the operating instruction label is present and legible.
- Ensure the operating Instructions are clearly observable on rig

Refer to operating Instructions for the correct set-up procedure.

1.9 HEALTH AND SAFETY DECALS

Decals are placed on the KYOTO containment mat for the operator to adhere to.





SECTION 2.0
GENERAL INFORMATION

2.1 INTRODUCTION

The equipment consists of a KYOTO Containment Mat 12 feet wide x 35 feet long with 4 inch diameter inflatable sides (berms). The mat is manufactured from a polyurethane material which is resistant to a wide range of chemicals including Skydrol.

A 12 volts DC motorised hose reel is provided to conveniently store and dispense the mat.

The reel is mounted on an 87 gallon stainless steel tank which in turn is fitted on a rigid steel chassis. The chassis is supported by three heavy duty wheels with 16 inch super elastic tyres, one of which is mounted on a heavy duty steering castor wheel. A drawbar which can be locked in the upright position for storage and safety is attached to the steering castor unit. A drawbar operated parking brake acts on the front wheel when the drawbar is locked in the upright position.

A vacuum unit which has a 36 Volt vacuum motor head is powered by three 12 Volt batteries. The batteries are stored in plastic containers which are mounted on top of the tank underneath the reel. An automatic charger is supplied with the rig to connect the batteries with an external power supply of 220V AC when the batteries require a recharge.



WARNING:

This vacuum unit is for the collection of liquids only.

A system for inflating the sides (berms) of the mat is conveniently mounted on the front of the trolley. It consists of a re-chargeable nitrogen cylinder, a pre-set HP regulator, on/off ball valve and a 15 foot hose with Schrader connector.

A vacuum floor tool for collecting the waste water from the mat is conveniently stored on top of the tank. The vacuum floor tool connects to the vacuum unit and when switched on, sucks the waste water from the containment mat into the 87 gallon tank.

A 3/4" BSP drain ball valve is fitted on the back of the tank to empty the waste material into the designated collection tank/area where filtration is available.



WARNING:

When collecting waste water from a detergent wash an anti-foaming agent, such as Dow Corning DC Antifoam RD Emulsion, must be used. Failure to do this could result in damage to the motors. The anti-foaming agent can be added to the tank through the filler cap at the base of the vacuum unit or hand sprayed directly onto the mat prior to the waste water collection.

NOTE: During trials using the Dow Corning product it was found that a dilution of 50ml emulsion to 1ltr. of water was effective in treating 50 gallons of waste water from a detergent wash.

2.2 LEADING PARTICULARS

PART NUMBER:	JMP/KYOTO/D/6777/C200
OVERALL DIMENSIONS: <i>(with mat in stowed position)</i>	Height : 74" (1870mm) Width : 40" (1020mm) Length : 149" (3780mm)
DIMENSIONS OF KYOTO MAT:	35 ft x 12 ft x 4" high walls (berms)
GROSS WEIGHT:	Approx 668 kg (1472 lbs)
NUMBER OF FLUID VESSELS:	1
FLUID CAPACITY OF VESSELS:	330 ltr. (87 gallons)
NUMBER OF NITROGEN CYLINDERS:	1
NITROGEN CYLINDER CAPACITY:	70 cu.ft. (1996 ltr.)
NITROGEN CHARGING PRESSURE:	2500 ibf/sq.in. (172.4 bar)
NITROGEN CYLINDER TEST PRESSURE:	4844.3 ibf/sq.in. (334.0 bar)
TOWING SPEED (MAX):	10 MPH (16 KPH)
ELECTRICAL POWER REQUIREMENT: <i>(for use in topping up battery with trickle charger)</i>	220/240V a.c., single phase

2.3 VIEWS OF KYOTO CONTAINMENT MAT

Fig 1

Containment mat frame
c/w motorised reel
(ITEM 30)

Kyoto containment mat
(ITEM 29)

Schrader charging
valve, male
(ITEM 62)

Vacuum motor head,
vacuum float valve,
vacuum drum
(ITEMS 21,22,23)

Tank welded assembly
(ITEM 8)

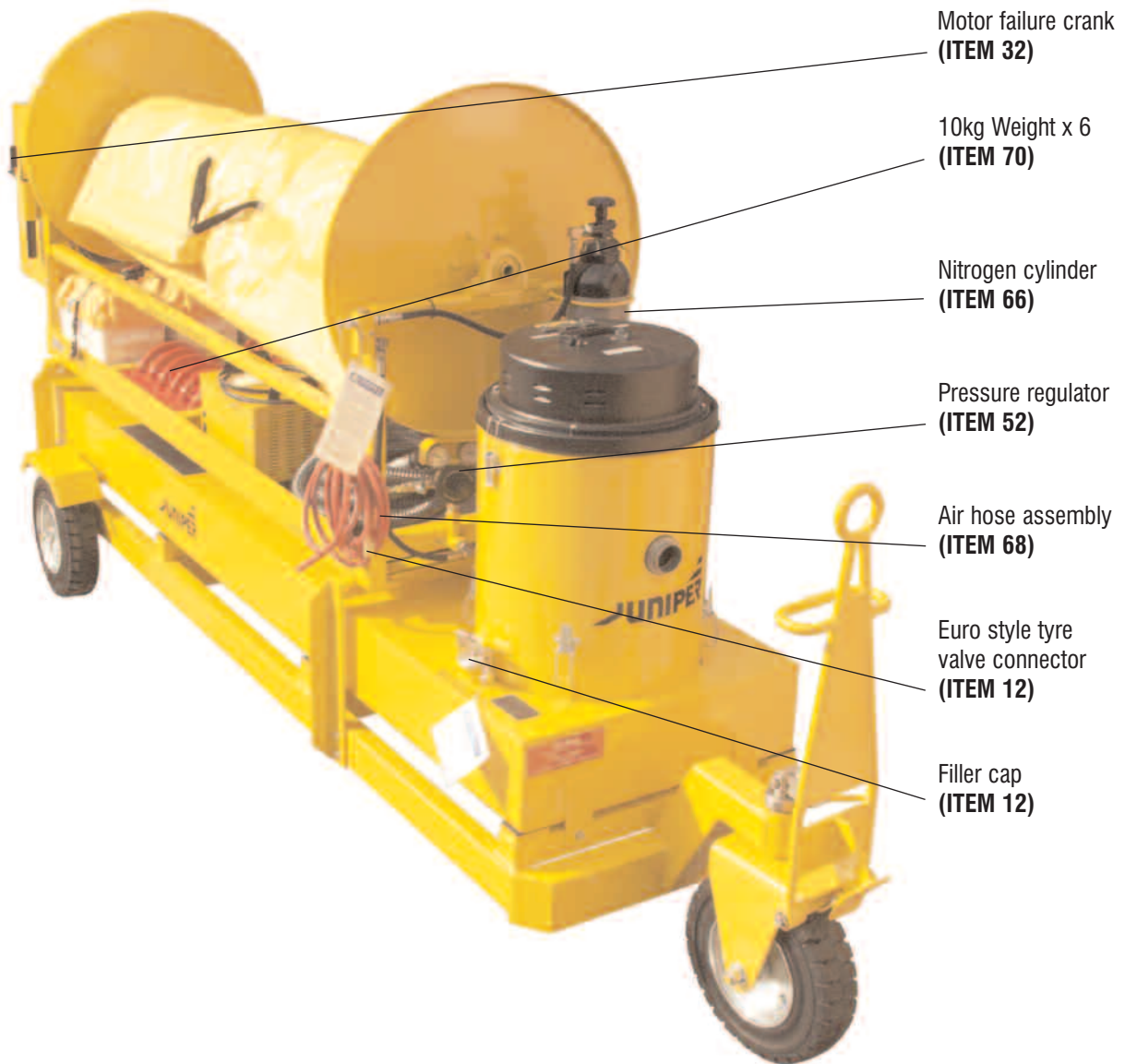
Frame
(ITEM 1)



Note:
For full parts list refer to
section 5.2

2.3 VIEWS OF KYOTO CONTAINMENT MAT

Fig 2



Note:

For full parts list refer to section 5.2

2.3 VIEWS OF KYOTO CONTAINMENT MAT

Fig 3

Reel forward/reverse switch
(ITEM 31)

Voltmeter
(ITEM 41)

Reset switch
(ITEM 42)

Operating instructions
(ITEM 73)

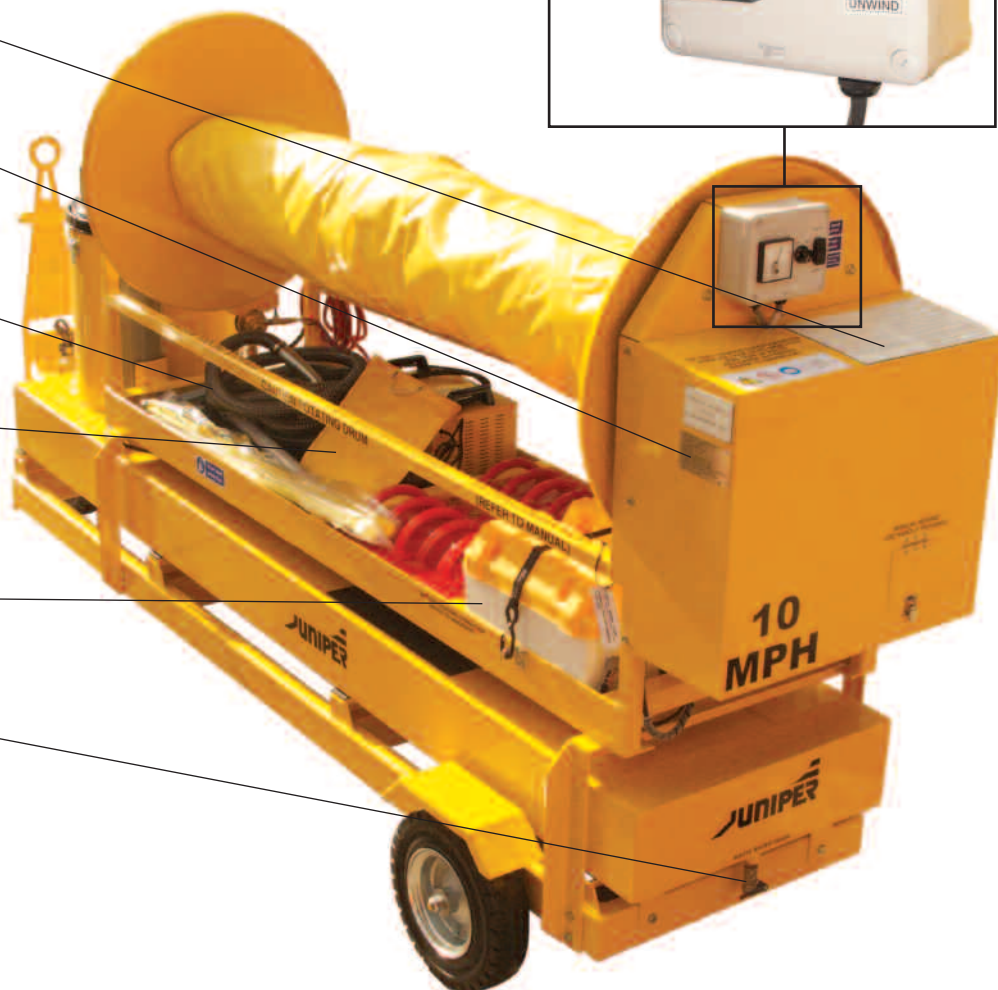
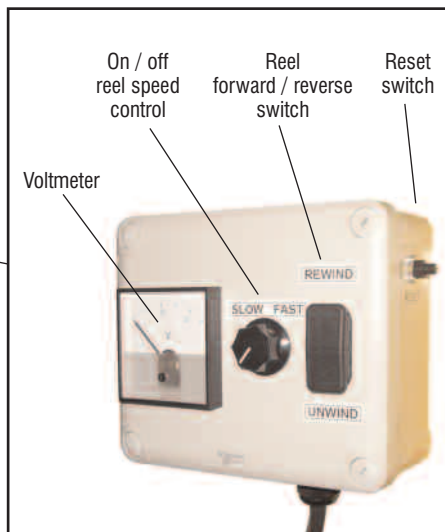
Identification label
(ITEM 71)

Vacuum hose,
vacuum bend arm,
vacuum extension arm,
vacuum floor tool
(ITEMS 24,25,26,27)

Mat repair kit
(ITEM 71)

3 Batteries, 12V each
(ITEM 34)

Drain valve
(ITEM 10)

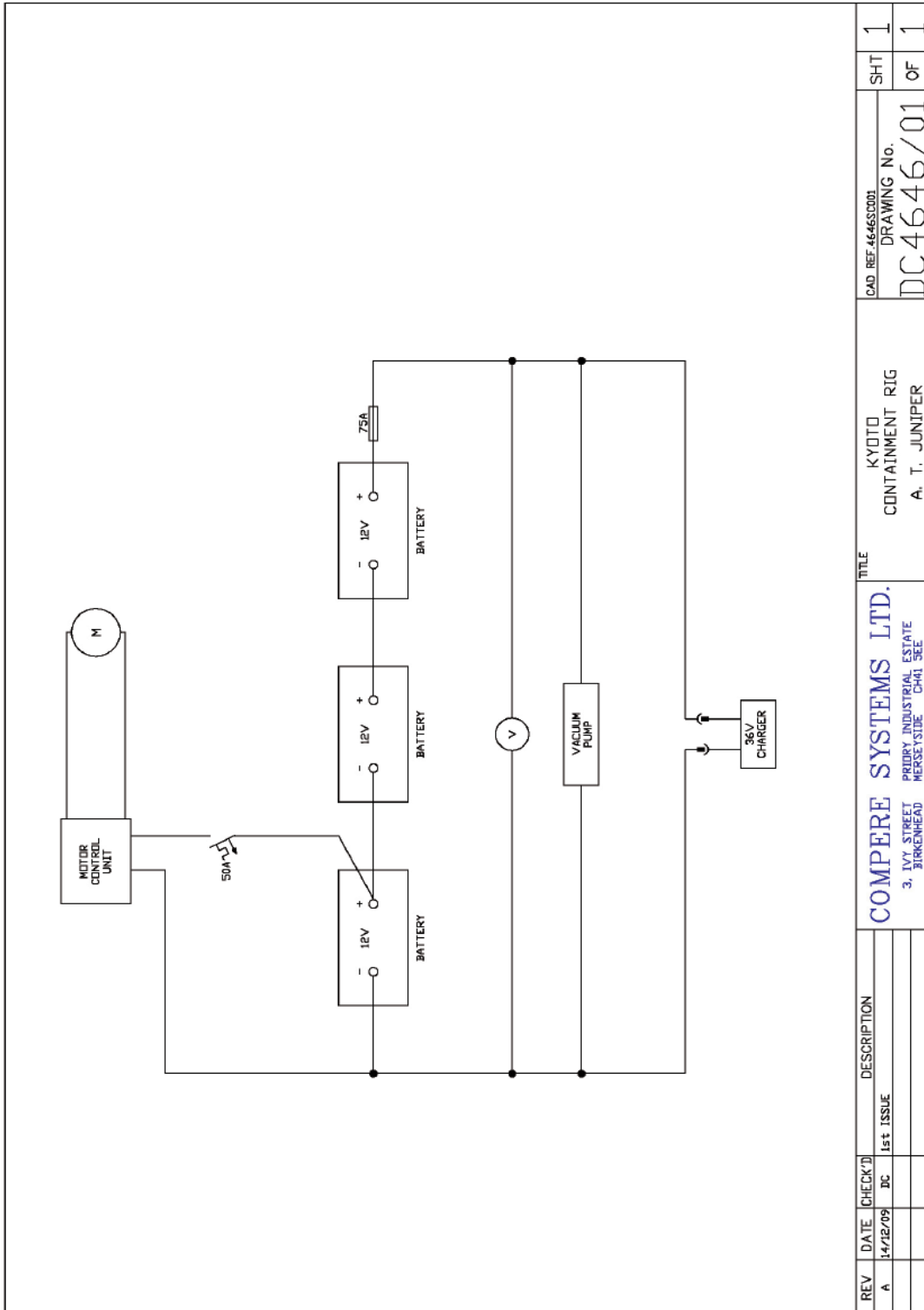


Note:
For full parts list refer to
section 5.2



Note:
For full parts list refer to
section 5.2

2.4 RIG WIRING DIAGRAM



REV	DATE	CHECK'D	DESCRIPTION	TITLE		CAD REF	DRAWING No.	SHT	OF
A	14/12/09	DC	1st ISSUE	COMPERE SYSTEMS LTD. 3, IVY STREET BIRKENHEAD CH41 5EE		KYOTO CONTAINMENT RIG	DC4646/01	1	1
				A. T. JUNIPER					

2.5 DESCRIPTION OF COMPONENTS

NOTE: Item numbers refer to parts list (section 5.2)

Frame (Item 1)

The rig's frame is a welded steel structure which forms a transportation trolley for the hose reel/mat and the single fluid tank. The trolley has three solid rubber wheels, with the front wheel being braked when the drawbar is locked in the upright position .

Waste Water Tank (Item 8)

The stainless steel tank has a volume of 330 litres (87 galls) and is mounted underneath the reel. It's welded assembly provides ports for: connection of the vacuum drum, filler cap for the addition of anti-foaming agent (see page 12) and tank drain valve positioned at the rear of the unit.

Drain Valve (Item 10)

A 3/4" BSP drain valve is fitted to the rear of the unit facing downwards to drain waste water fluid from the tank.

Vacuum Unit (Items 21,22,23)

A vacuum unit consisting of a 36V motor head (Item 21), a float valve (Item 22) and a vacuum drum (Item 23), are fitted to transport waste water from the containment mat to the tank.

Vacuum Accessories (Items 24,25,26,27)

In order to transport the waste water, the vacuum unit must be connected with the vacuum tooling assembly (stowed under the containment mat reel), which consists of a 7.5m vacuum hose (Item 24), a bend arm (Item 25), an extension arm (Item 26) and a vacuum floor tool (Item 27).

Containment Mat Frame c/w Motorised Reel (Item 30)

The reel ensures neat stowage of the KYOTO containment mat and is fitted with a motor for ease of operation.

Reel Forward/Reverse Switch (Item 31)

The reel forward/reverse rocker switch and speed control dial are both housed on the control panel to the rear of the rig.

Motor Failure Crank (Item 32)

The motor failure crank is stowed at the right hand side from the back of the unit. This is supplied as a manual rewind for the reel if the battery or motor fails. If the motor cuts out due to overload, reset using the button on the R/H side of Item 31 (above).

KYOTO Containment Mat (Item 29)

This mat is deployed under the engine to prevent any waste water entering the drainage system. The mat dimensions are 35ft x 12ft with inflatable 4" high sides.

Filler Cap (Item 12)

A filler cap is positioned next to the vacuum unit to allow the addition of anti-foaming liquid (see introduction, page 12).

Battery 12V (Item 34)

Three 12v batteries are supplied to power the electrical motor for rewinding the reel and powering the vacuum motor head.

Voltmeter (Item 41)

Indicates battery levels. If the voltmeter reads less than 36V then the batteries must be re-charged using the automatic charger supplied - Item 39.

Reset Switch (Item 42)

Resets the 50A circuit breaker

Pressure Regulator (Item 52)

The pressure regulator has been pre-set to 80psig. This regulates the pressure delivered to inflate the side walls in the containment mat. The two pressure gauges on the mat are for reading both cylinder pressure (right hand) and regulated pressure (left hand).

Schrader Charging Valve - Male (Item 62)

The Schrader charging valve is for re-charging pressure in the cylinder. See charging procedure.

Nitrogen cylinder (Item 66)

The nitrogen cylinder is for inflating the side walls of the containment mat. The maximum charged pressure is 2500psig which is stated on the cylinder. A minimum requirement of 1000psig is recommended. To re-charge cylinder see charging procedure

Air Hose Assembly (Item 68)

The air hose is stowed on the right hand side when viewed from the front. This hose is supplied with a Euro style tyre valve connector (**Item 69**) to connect onto the Schrader valve fitted on the side walls (berms) of the containment mat and transfers the regulated air from the cylinder to the walls.

10Kg Weight x 6 (Item 70)

To be placed inside berms of inflated containment mat to keep it grounded.



SECTION 3.0
OPERATING INSTRUCTIONS

3.1 INTRODUCTION



WARNING

PLEASE READ THE HEALTH AND SAFETY SECTION BEFORE OPERATING THE KYOTO CONTAINMENT MAT.

3.2 OPERATING INSTRUCTIONS

Ensure the on/off inflation valve is in the off position. That is, across the direction of flow.

Turn on the nitrogen cylinder, ie: hand wheel valve fully anti-clockwise. Ensure the cylinder has sufficient capacity, ie: minimum capacity 200psig as shown on the right hand gauge. If the cylinder needs charging, refer to charging procedure.

Position the trolley 35 feet way from the exhaust of the engine being washed and at right angles to the engine ensuring the mat to be dispensed from the top of the reel. Apply the brake by locking the tow bar in the upright position.

Unwind the Mat from the hose reel toward the rear of the engine and detach the three velcro straps from the hose reel (a minimum of two persons required, one on each side of the mat). When fully extended, open the mat out to its full width.

Re-position the trolley at a safe distance to one side of the engine exhaust.

Uncoil the inflation hose and attach the hose end fitting to the inflation valve on the mat ensuring that the valve on the fitting is fully attached.

Open nitrogen inlet valve to inflate the sides of the mat. When the sides are fully inflated the safety valve on the mat blows off. Close the valve, disconnect the hose fitting and re-stow on the rig.

Final positioning of the mat.

When the engine preparation has been completed, re-position the mat under the engine to ensure all waste water will be collected. This position is normally 3-4 feet in front of the back of the fan cowls toward the front of the engine.

If a detergent wash is required please refer to the anti-foaming warning on page 12.

3.3 AFTER COLLECTION

Switch on the vacuum unit ensuring all three switches are in the 'on' position. Use the vacuum floor tool to suck up the liquid from inside the collection mat.

The vacuum unit can be switched on at any time during the compressor washing procedure, ie: when sufficient water has been collected. It can remain on until all water has been collected.

Deflating the mat sides (berms) and re-storing the mat on the reel.

Unscrew the protective cap on the large inflation valve which is positioned adjacent to the valve used to inflate the sides (berms). Note: the inner valve revealed when opening the cap is left permanently open by pushing in and turning clockwise.

Fold in the sides and move the trolley to the original position. Connect the velcro straps to the reel.

NOTE: The mat should be re-wound over the reel, not under. Re-stow the mat on the reel using the push button to operate. With one person positioned each side, initially guide the mat manually on to the reel.

CAUTION: Moving parts can crush and cut, so keep hands clear and do not operate with guards removed.

NOTE: A manual re-wind handle has been stowed on the trolley should the battery fail.

3.4 DISPOSAL OF ENGINE WASH WASTE WATER

The waste water collected must always be disposed of in accordance with appropriate Health and Safety regulations.

3.5 NITROGEN CYLINDER RE-CHARGING PROCEDURE

Safety notes

- Always wear protective glasses when carrying out this procedure.
- The maximum nitrogen cylinder charge pressure is 172.4 bar (2500 lbf/sq in.).
- A Schrader charging valve (Pt No. MS-28889-2) is fitted on a machined block which is mounted on the frame of the washing rig adjacent to the nitrogen cylinder. The charging line must be fitted with a Schrader Special Products connector (Pt Nos. 2755, 5007 or 5784) to connect to this charging valve. These connectors have a 0.305 x 32 female thread for connection to the valve.

Charging procedure

- Ensure that the nitrogen cylinder hand wheels on the rig are fully closed, ie: fully clockwise.
- Make sure that the HP regulator on the rig is fully closed, ie: fully anti-clockwise.
- Ensure that donor nitrogen cylinder(s) is fully charged (2500 psig) and that the supply regulator is fully closed.
- Connect the high pressure charging line to the Schrader charging valve.
- To open valve, turn the lock nut on the charging valve anti-clockwise and make a seal against the charging connection. In addition, if charging valve Pt No. 2755 is being used, turn the tommy bar fully clockwise.
- Open the hand wheels on the rig nitrogen cylinders to be charged, ie: fully anti-clockwise.
- Open the valve on the donor nitrogen cylinder.
- Adjust the supply regulator for an initial pressure of 17 bar (250 lbf/sq in.). As the nitrogen flows through, the decanted pressure will be indicated on the right hand gauge of the high pressure regulator. Gradually increase the pressure in 17 bar (250 lbf/sq in.) stages until a pressure of 172.4 bar (2500 lbf/sq in.) is reached, allowing sufficient time between increases in pressure for the pressure to equalise.

NOTE:

- The final pressure will depend on the capacity of the donor cylinder, ie: it may be less than 172.4 bar (2500 lbf/sq in.).
- When the pressure in the nitrogen cylinder has equalised, close the valve on both the nitrogen cylinder.
- Close the Schrader charging valve by turning the lock nut fully clockwise. In addition, if charging valve Pt No. 2755 has been used, turn the tommy bar fully anti-clockwise to vent the delivery line.

- Disconnect the charging connector, taking care to discharge any pressure in the line slowly and away from the eyes.
- Open the hand wheel on the nitrogen cylinder on the rig by turning it anti-clockwise.
- Confirm that the nitrogen cylinder on the rig has been charged to the required pressure (2500 psig) as shown on the right hand pressure gauge on the rig HP regulator.
- Close the hand wheel on the rig nitrogen cylinder by turning it clockwise.



SECTION 4.0
MAINTENANCE

4.1 INTRODUCTION

Maintenance of the KYOTO Containment Mat consists of preventative maintenance, cleaning and examination procedures detailed in this section.

Safety and maintenance notes

Safety and maintenance notes and other general safety/maintenance procedures are to be complied with, where relevant, throughout the work detailed in this section.

The nitrogen cylinder is classified as an air receiver and is subject to the regulations as required by the country of use.

4.2 PREVENTATIVE MAINTENANCE: CLEANING



WARNING: High pressures are used in this equipment. Never disconnect with any system under pressure

- Clean all external parts of the KYOTO containment mat in accordance with current procedures.
- The need for cleaning the stainless steel storage tank depends upon usage. The internal design of the tank helps prevent the build up of sand or dirt but to ensure these levels do not increase and cause blockages it is necessary to rinse the tank periodically. To rinse the tank, unbuckle the vacuum drum and remove from the tank to reveal the circular opening. Place a hose into the tank and proceed to flush with clean water. Ensure the drain valve at the rear of the tank is in the open position. Collect waste fluid and dispose of to a safe environment.
- The vacuum float valve should be cleaned with water to ensure debris is cleared so the ball does not become stuck.

Lubrication: Periodically lubricate the following parts with grease:

- Front and rear wheels
- Steering castor assembly
- Castor axle

4.3 PREVENTATIVE MAINTENANCE: EXAMINING

- Visually examine all the components and structure of the KYOTO containment mat as follows. Parts which fail to meet the examination requirements shall be renewed.
- Examine side walls (berms) for splits or punctures. Use supplied repair kit as necessary (see section 4 Annex C).
- Ensure that air pressure gauge is set to 80psi.
- Examine all nuts, bolts and screws for security.
Examine all pipe joints, unions and hose connections for freedom from leaks.
- Examine all hoses for freedom from damage, cuts and deterioration. Ensure all hoses and cables are correctly stowed on the stowages provided.
Examine paintwork for flaking and damage, if necessary make good the paintwork.
- Examine tyres for cracks, cuts, deterioration or excessive wear, replace tyres if tread depth is less than 0.080in. (2mm).
- Check wheels for freedom of rotation and grease wheel bearing if necessary.
- Check level of electrolyte in battery cells at regular intervals. Top up as necessary with distilled water.

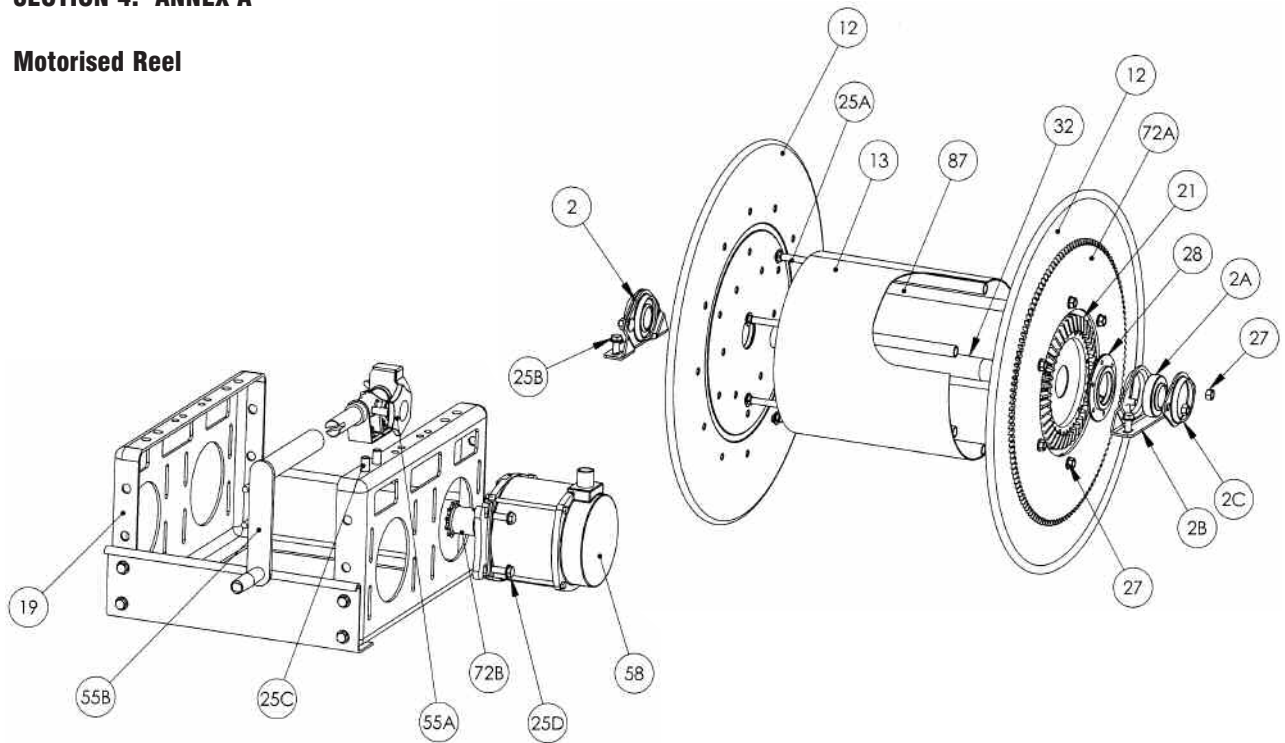
4.4

CORRECTIVE MAINTENANCE: GENERAL

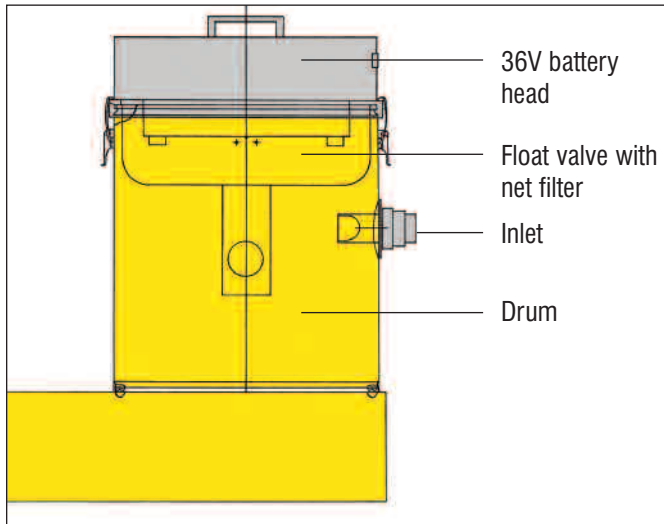
- Corrective maintenance of the KYOTO containment mat is confined to the removing of unserviceable components. Only the components listed in this parts catalogue are to be installed on the equipment.

SECTION 4: ANNEX A

Motorised Reel



ITEM No.	PART No.	DESCRIPTION	QTY.
2	SM 895 - 02 - 01	1" SELF-ALIGNING BEARING ASSEMBLY (COMPLETE)	2
2A	SM 895 - 02 - 02	1" SELF-ALIGNING BEARING (INSERT ONLY)	2
2B	SM 895 - 02 - 03	PILLOW BLOCK HOUSING PIECE (E-COATED)	2
2C	SM 895 - 02 - 04	BEARING HOLDER PIECE (E-COATED)	2
6	SM 895 - 02 - 05	#35 CHAIN	1
12	SM 895 - 02 - 06	DISC (STEEL)	2
13	SM 895 - 02 - 07	DRUM, 10 - 1/2" DIAMETER (STEEL)	1
19	SM 895 - 02 - 08	FRAME ASSEMBLY (STEEL)	1
21	SM 895 - 02 - 09	RING GEAR, H-26	1
25A	SM 895 - 02 - 10	3/8" CARRIAGE BOLT	6
25B	SM 895 - 02 - 11	3/8" - 16 x 3/4" SPINLOCK BOLT	4
25C	SM 895 - 02 - 12	1/2" - 13 x 1" HEX BOLT	2
25D	SM 895 - 02 - 13	3/8" - 16 x 1" SPINLOCK BOLT	4
27	SM 895 - 02 - 14	3/8" - 16 SPINLOCK NUT	specify
28	SM 895 - 02 - 15	EH-936 DISC WASHER	2
32	SM 895 - 02 - 16	CABLE REEL HUB	1
55A	SM 895 - 02 - 17	MANUAL REWIND ASSEMBLY	1
55B	SM 895 - 02 - 18	H-18 CRANK HANDLE	1
58	SM 895 - 02 - 19	12V MOTOR (1/2 HP, 650 RPM)	1
72A	SM 895 - 02 - 20	138T35 DISC SPROCKET	1
72B	SM 895 - 02 - 21	11T35 SPROCKET (1-5/16" LENGTH)	1
87	SM 895 - 02 - 22	3/8" ALUMINIUM SPACER PIPE	6

SECTION 4: ANNEX B**Vacuum unit****IMPORTANT****Please read these instructions carefully**

This vacuum cleaner is designed to handle a wide range of cleaning and debris collection in industrial areas. It is provided with individual switched motors to enable the operator to select the performance suitable to the task.

Caution

This vacuum cleaner must be used for the collection of liquids only and must not be used for the collection of health endangering, flammable or explosive materials.

Preparation for use

Unpack and identify each item of equipment against packing note.

Noise emission

78dB(A) @ 1m

Normal use

The motors of this vacuum cleaner have individual switches. All switches have to be on during use. It is recommended that when starting switch on one at a time. This reduces high starting currents.

Hoses and accessories

The machine is supplied with a 7.5m hose complete with vacuum floor tool.
(See items 21 to 27 in the parts list, page 38).

SECTION 4: ANNEX C**Containment mat / repair kit****⚠ WARNING**

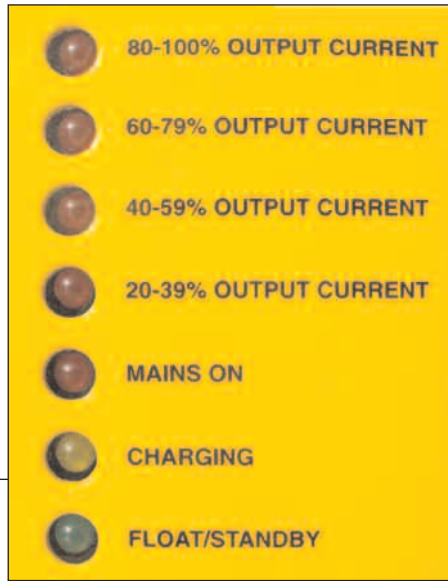
Care should be taken to remove small stones and other sharp objects from the area where the mat is to be deployed. In the event of a puncture or tear in the side walls (berms) or the mat itself, a repair kit is supplied, consisting of:

- Scissors
- Seam roller
- A strip of Tear-Aid Type A self adhesive patch material
- Instruction sheet

Whilst the mat is constructed of a tough, flexible polyurethane material, reasonable care should also be taken when stowing and deploying to avoid unnecessary creasing and bunching.

SECTION 4: ANNEX C

Omega Battery Charger (Microprocessor controlled)



This charger is designed to provide fast, automatic charging and ensure peak performance from your batteries.

Features:

- Short circuit shutdown
- Reverse polarity protection
- 3-stage charge CC-CV float
- Fast constant current bulk charge
- Constant voltage proportional timing
- Constant voltage float/standby
- Independent overrun (fault) timer
- Digital Electronics

NOTE: Chargers are CE marked to indicate compliance with the Electromagnetic Compatibility Directive (2004/108/EC) and also the Low Voltage Directive (2006/95/EC). Compliance is achieved by working to BS EN 55014 SECTION 7.3.7.7 and BS EN 60-335-2-29:2004 respectively.

Before use please read the instructions and warnings and check the charger rating label.

Instructions for use

Connect the Red (+) output lead to the battery positive (+) terminal.
 Connect the BLK (-) output lead to the battery negative (-) terminal.
 Connect the charger power cable (3-pin mains plug) to the AC power outlet and switch on.

The charger controller will carry out a self-test. The **FLOAT/STANDBY**, **CHARGING** and **MAINS ON** indicators will momentarily light in turn and then:

The red **MAINS ON** indicator will light to show that the AC power is **ON**.

The yellow **CHARGING** indicator will light to show that the battery is connected correctly.

The yellow **CHARGING** indicator will start to flash when the battery is approximately 80% fully charged. This also indicates the start of the automatic timer for the constant voltage charge stage. The constant voltage stage will last for half the time taken to reach the constant voltage stage plus one hour. This is the proportional timing.

The 4 Led current meter (where fitted) indicates the proportion of rated current flowing.

The green **FLOAT/STANDBY** indicator will come on when the battery is fully charged and is ready for use. This will take a minimum of one hour, and may take up to eighteen hours from start of charging depending on the size of battery and the depth of Discharge.

While the GREEN light is on the battery will be trickle charge to compensate for self-discharge and ensure the cells are equally charged. For best results the battery should be left connected and on charge until required for use.

If the GREEN indicator is FLASHING at the end of charge, this indicates a FAULT condition. This may be due to a battery defect, a fault in the charger, or the battery may not be fitted charged within the 18-hour override time. The battery and charger should be tested if this happens.

Unplug the AC cable from the mains power outlet or switch off before disconnecting the charger from the batteries.



WARNINGS

AC input only- see rating label on charger for details. This appliance must be earthed.

Disconnect AC mains supply before connecting or disconnecting the charger from the battery.

If the AC power lead is damaged the appliance should not be used.

If the plug supplied with this appliance is cut from the power supply cord so that another plug can be fitted it must be disposed of safely, as if such a plug is inserted in a 13A-socket outlet the cut end of the cable would present a shock hazard.

Batteries may emit explosive gas mixture – prevent flames and sparks.

Do not expose to rain or moisture or attempt to recharge non-rechargeable batteries; they may explode.

Use only with batteries of voltage specified on label and of a capacity in ampere hours of at least 4x rated current of charger (2 x in the case of gel batteries) Check that the charger supplied is set for the make and type of battery used.

IMPORTANT

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The blue wire must be connected to the terminal which is marked with the letter N or coloured black.

The brown wire must be connected to the terminal which is marked with the letter L or coloured red.

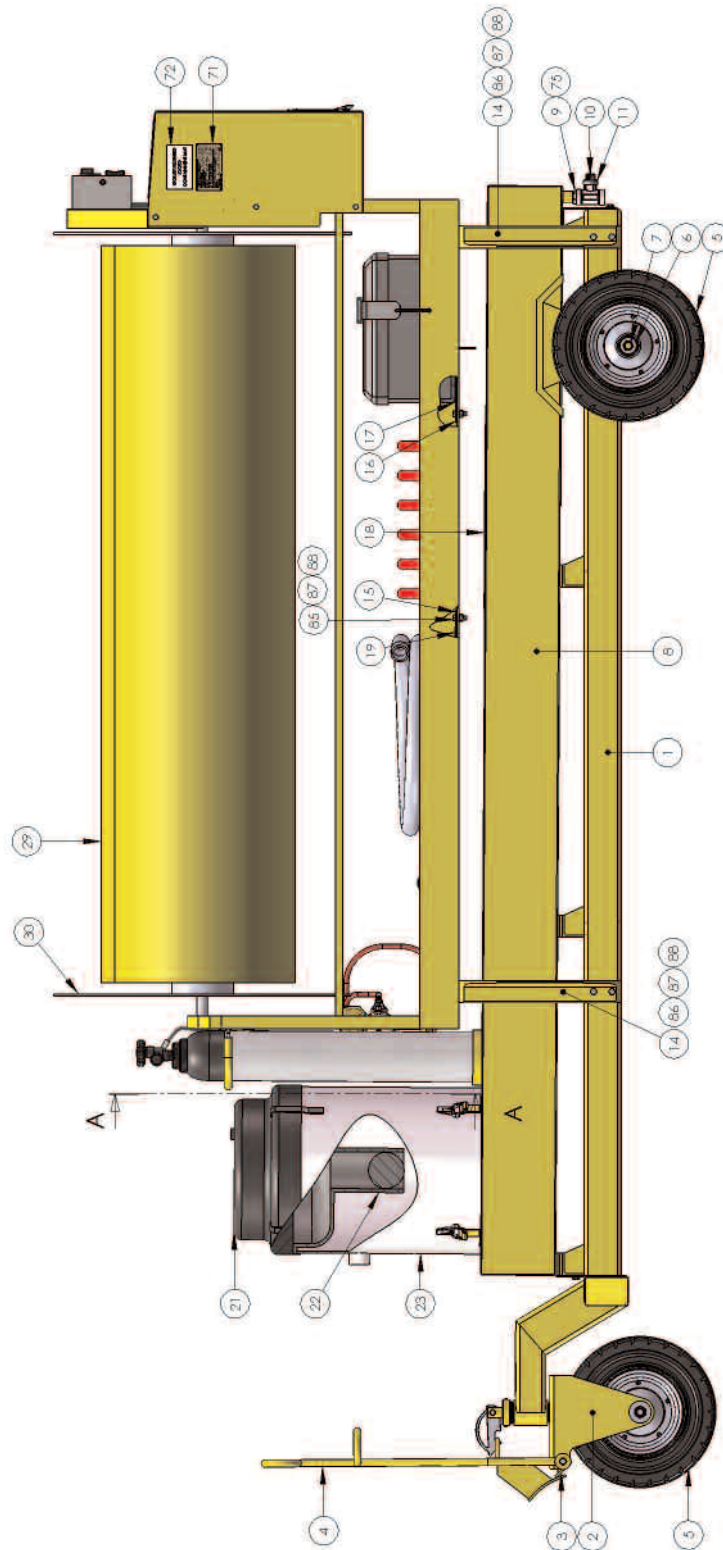
The green, or green and yellow wire must be connected to the terminal in the plug which is marked with the letter E, or by the earth symbol, or coloured green or green and yellow.

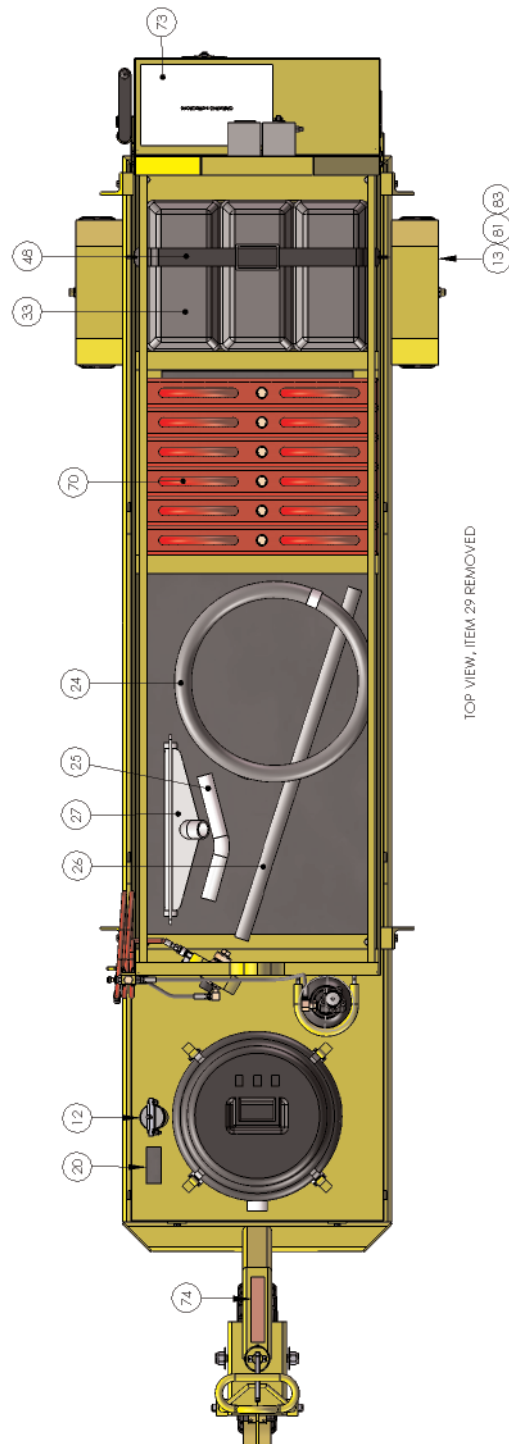
If the fuse in the appliance blows it must be replaced with a fuse of the same value. In case of difficulty consult the supplier.

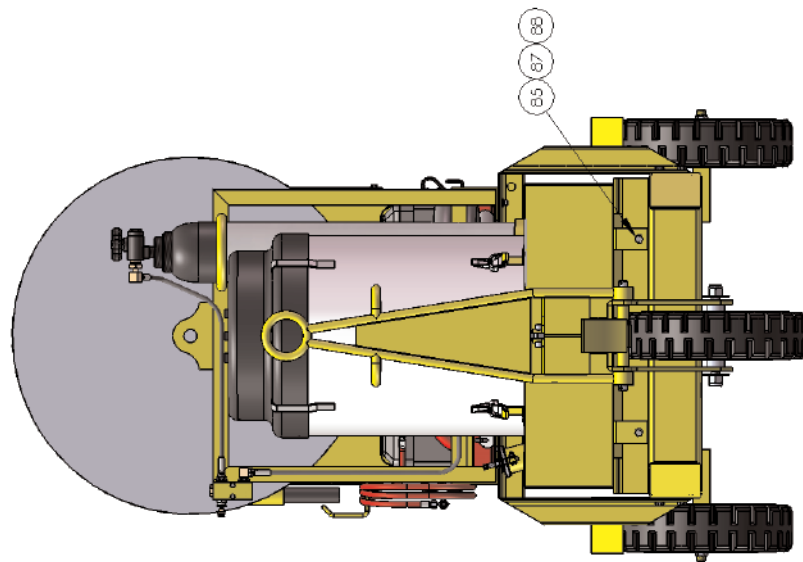
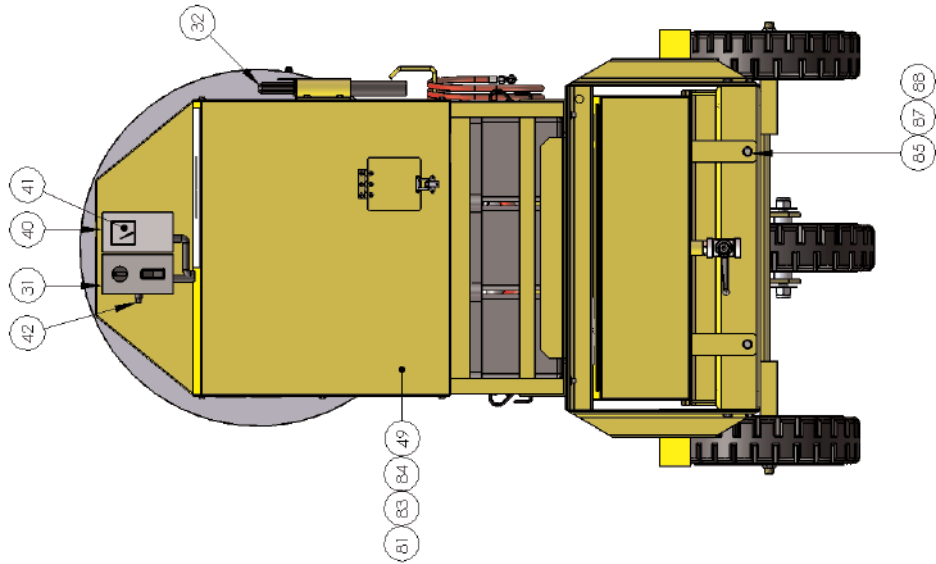
If the supply cable of this appliance is damaged, it must only be replaced by a repairer appointed by the manufacturer because special tools are required to replace it. There are no user serviceable parts in the charger.

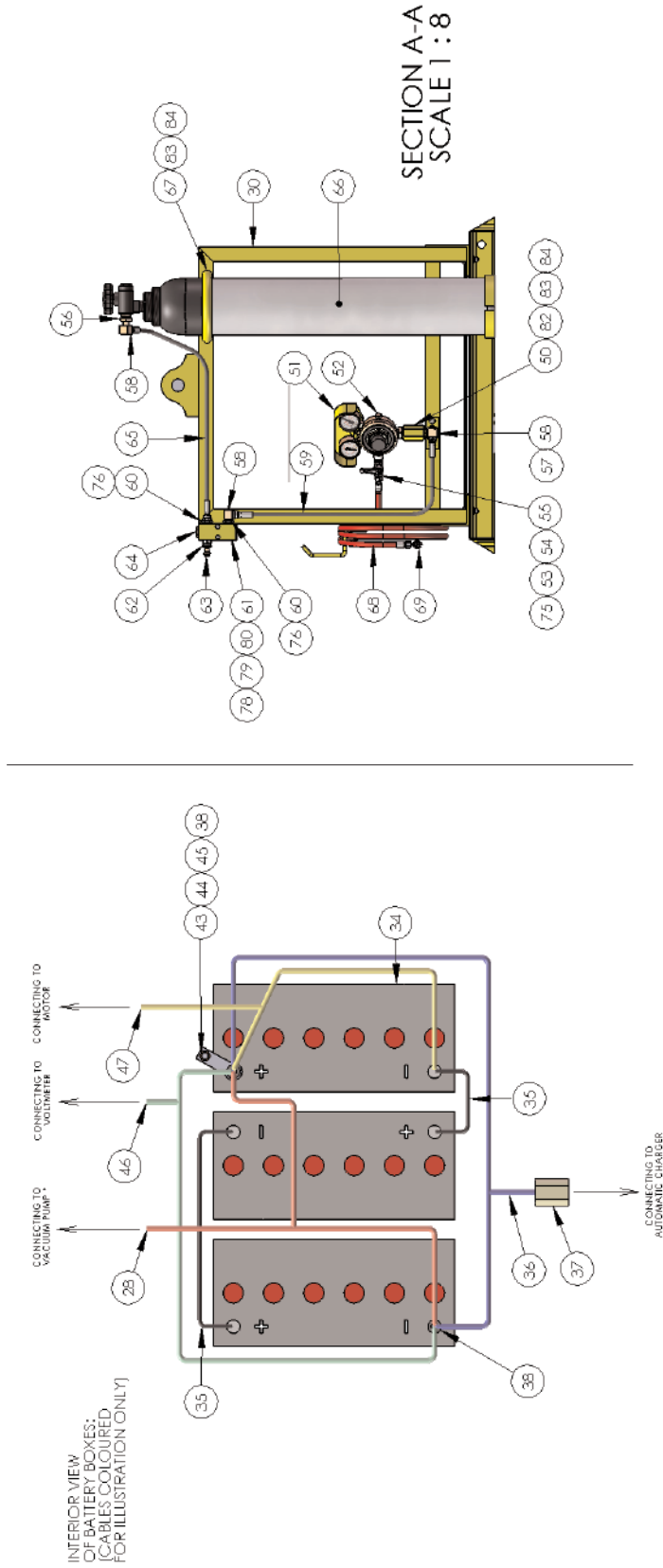


**SECTION 5.0
PARTS LIST
AND G.A. DRAWINGS**









5.2 PARTS LIST FOR THE KYOTO CONTAINMENT MAT

ITEM No.	PART No.	DESCRIPTION	QTY.
1	JMP/KYOTO/D/6807	FRAME WELDED ASSEMBLY	1
2	JMP/LUFT/D/4913	FRONT WHEEL CASTOR ASSEMBLY	1
3	JMP/LUFT/D/4916	BRAKE SHOE ARRANGEMENT	1
4	JMP/CFM56/C/6193	DRAWBAR	1
5	SM 707	WHEEL 410mm DIAMETER	3
6	19.5mm ID 51mm OD WASHER	AS SUPPLIED	2
7	3-4 BSW NYLOCK NUT	AS SUPPLIED	2
8	JMP/KYOTO/D/6808	TANK WELDED ASSEMBLY	1
9	JMP/STD/A/5348	3/4" BSP X 1/2" BSP ADAPTOR	1
10	SM 029	3/4" BSP BALL VALVE	1
11	JMP/CF6/A/4071	PROTECTIVE COLLAR	1
12	JMP/GN/B/0975	FILLER CAP ASSEMBLY	1
13	JMP/CFM56/B/6192	WHEEL GUARD	2
14	JMP/KYOTO/D/6807 - 03	COLLECTION MAT SUPPORT FRAME	2
15	JMP/KYOTO/D/6807 - 14	PLATE FOR VACUUM HOSE STOWAGE	1
16	JMP/KYOTO/D/6807 - 15	PLATE FOR BATTERY BOX STORAGE	1
17	JMP/KYOTO/D/6807 - 17	RUBBER PROTECTIVE LAYER	1
18	JMP/KYOTO/D/6807 - 18	RUBBER PROTECTIVE LAYER	1
19	JMP/KYOTO/D/6807 - 19	RUBBER PROTECTIVE LAYER	1
20	JMP/KYOTO/D/6807 - 20	RUBBER PROTECTIVE LAYER	1
21	SM 894 - 01	VACUUM 36v MOTOR HEAD (SEE SECTION 4, ANNEX B)	1
22	SM 894 - 02	VACUUM FLOAT VALVE	1
23	SM 894 - 03	VACUUM DRUM	1
24	SM 894 - 04	VACUUM HOSE 7.5m	1
25	SM 894 - 05	VACUUM BEND ARM	1
26	SM 894 - 06	VACUUM EXTENSION ARM	1
27	SM 894 - 07	VACUUM FLOOR TOOL	1
28	SM 894 - 08	CABLE, BATTERY - VACUUM PUMP	1
29	SM 895 - 01	CONTAINMENT MAT 14' x 35'	1
30	SM 895 - 02	FRAME c/w MOTORISED REEL (SEE SECTION 4, ANNEX A)	1
31	SM 895 - 03	FORWARD/REVERSE SWITCH	1
32	SM 895 - 04	MOTOR FAILURE CRANK	1
33	SM 896 - 01	BATTERY BOX AND LID	3
34	SM 896 - 02	12v BATTERY	3
35	SM 896 - 03	BATTERY LINK	2
36	SM 896 - 04	CABLE, BATTERY - ANDERSON PLUG	1
37	SM 896 - 05	ANDERSON PLUG	1
38	SM 896 - 06	EYELET CON	1
39	SM 896 - 07	BATTERY CHARGER (SEE SECTION 4, ANNEX D)	1
40	SM 897 - 01	VOLTMETER BOX	1
41	SM 897 - 02	VOLTMETER (0-50V)	1
42	SM 897 - 03	RESET SWITCH (50A MCB)	1

ITEM No.	PART No.	DESCRIPTION	QTY.
43	SM 897 - 04	75A FUSE	1
44	SM 897 - 05	TERMINAL CLAMP	1
45	SM 897 - 06	INSULATED NUT	1
46	SM 897 - 07	CABLE, BATTERY - VOLTMETER	1
47	SM 897 - 08	CABLE, BATTERY - LATIMAT MOTOR	1
48	SM 898	SECURING STRAP	1
49	JMP/KYOTO/D/6809	REAR COVER	1
50	SM 710	REGULATOR MOUNTING BLOCK	1
51	JMP/STD/B/0458	PRESSURE GAUGE GUARD	1
52	SM 706	PRESSURE REGULATOR	1
53	JMP/STD/A/5427	¼" NPT x ⅜" BSP ADAPTOR	1
54	SM 026	¼" BSP BALL VALVE	1
55	JMP/STD/A/5397	¼" BSP x ¼" BSP ADAPTOR	1
56	JMP/STD/A/5468	CONNECTOR UNION NUT	2
57	JMP/STD/A/5467	CONNECTOR TAIL	2
58	JMP/STD/A/4447	¼" NPT (F) x ¼" BSP (M) ADAPTOR BLOCK	3
59	JMP/STD/B/4454 KYOTO1	¼" NB HOSE ASSEMBLY 610mm LONG	1
60	JMP/STD/A/1724	⅜" BSP x ¼" NPT ADAPTOR	2
61	JMP/STD/A/4482	AIR INLET MANIFOLD	1
62	SM 297	SCHRADER CHARGING VALVE	1
63	JMP/STD/A/6412	CAP (ATTACH TO ITEM WITH TALLURIT)	1
64	JMP/STD/A/5051 - 05	⅜" BSP BLANKING PLUG	1
65	JMP/STD/B/4454 KYOTO2	¼" NB HOSE ASSEMBLY 610mm LONG	1
66	SM 581	NITROGEN CYLINDER	1
67	JMP/STD/B/6810/01	CYLINDER CLAMP	1
68	JMP/KYOTO/HL/6814	AIR HOSE ASSEMBLY	1
69	SM 901	¼" EURO STYLE TYRE VALVE CONNECTOR	1
70	JMP/KYOTO/C/6818 - 01	10kg WEIGHT	6
71	JMP/STD/A/4501	JUNIPER IDENTIFICATION PLATE	1
72	JMP/KYOTO/B/6817- 01	TRAFFOLYTE PANEL - 'UNIT NAME'	1
73	JMP/KYOTO/B/6817- 02	TRAFFOLYTE PANEL - 'OPERATING INSTRUCTIONS'	1
74	JMP/GE90/A/6257	TRAFFOLYTE PANEL - 'TAKE CARE WHEN OPERATING'	1
75	13mm ID 2.5mm THICK FIBRE WASHER	AS SUPPLIED	2
76	16mm ID 2mm THICK FIBRE WASHER	AS SUPPLIED	2
77	22mm ID 1.5mm THICK FIBRE WASHER	AS SUPPLIED	1
78	M6 x 45 Long Hex Head Bolt	AS SUPPLIED	2
79	M6 Washer	AS SUPPLIED	2
80	M6 NYLOC NUT	AS SUPPLIED	2
81	M8 x 20 Long Hex Head Bolt	AS SUPPLIED	10
82	M8 x 30 Long Hex Head Bolt	AS SUPPLIED	2
83	M8 Washer	AS SUPPLIED	14
84	M8 NYLOC NUT	AS SUPPLIED	10
85	M10 x 30 Long Hex Head Bolt	AS SUPPLIED	12
86	M10 x 80 Long Hex Head Bolt	AS SUPPLIED	8
87	M10 Washer	AS SUPPLIED	20
88	M10 NYLOC NUT	AS SUPPLIED	18
89	SM 895 - 05	MAT REPAIR KIT (SEE SECTION 4, ANNEX C)	1