UK CA CE

autēm vacuum lifters

ELEVATING EXPECTATIONS

Weight 175Kgs /Length 2000MM /Height 500MM

Quattuor 1500

The Quattuor is easily attached/detached from your crane/ forklift and has a lifting capacity of 1500kgs.

Battery powered with no other power source required, makes the Quattuor 1500 very flexible whether on-site or in a factory setting.

Audio and Visual safety systems are installed on the unit to help meet your safety needs.

Pads are hard wearing and easily replaced.

All of our machines are UKCA/CE certified so you can be assured of their quality.

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autem vacuum lifters

ELEVATING EXPECTATIONS

Contents:

General

Please note that the manufacturer disclaims any responsibility for material damage or personal injury caused by improper use of this Quattuor 1500. The operator must read this Manual before using the device.

Lifting and Load Specification

The Quattuor 1500 may be used to lift a SWL of up to indicated MAX as indicated on pads and in the chart below, when it has achieved a vacuum level of 40% or above as indicated by the vacuum guage, see diagram (diag.1.g) The operator MUST have a clear view of the vacuum guage at all times.

diag. 1 g

Pad Dimensions	SWL
300 x 300	187Kg
200 x 800	480Kg
400 x 400	480Kg
450 x 450	330Kg
500 x 300	450Kg
600 x 300	540Kg
500x500	625Kg
900x450	1 Tonne

Please Note: This unit must under no circumstances be used within hazardous or explosive atmospheres.

The Quattuor 1500 is suitable for lifting, Steel, Alloy Plates, Stainless, Concrete Panels and any other material with a non-porous surface.

Always check that the surface of load to be lifted is free from any dirt/oil/grease or any detritus which could impede effective sealing.

Conditions

Ambient Temp: Up to 40 DEG. C. Hoist Acceleration: Max1MS-2 lifting or lowering.

Operating Safety Guidelines

WARNING!

Serious injury and or death may be caused by unit if operating procedures are not followed.

Training

Vacuum Lifting equipment should be operated only by competent persons who have been adequately trained in the safe use of the equipment and the findings of any risk assessment. Training should cover:

- potential dangers from the use of vacuum lifting equipment.
- factors which may cause equipment or lifting operation failure and how to avoid them.
- limitations on the use of the equipment.
- instructions on planning and carrying out safe lifting operations, including safe systems of work.
- specific instructions on safe use issued by autemvacuumlifters.co.uk;
- location and operation of the equipment controls.
- scheme for examination, maintenance requirements and system for reporting defects.
- emergency arrangements.

<table>
<tr><td colspan="2">  WARNING</td></tr>
<tr><td>  </td><td>Risk of injury from falling objects in case of:
Vacuum failure
The load breaking off due to a collision
Components failing due to incorrect loads and overloads or unauthorised modifications
There is a risk of death or serious injury from hitting people in the workplace:
Secure the working area from unauthorised persons, particularly children
Loitering below overhead loads is not allowed
Only work when you have a good view of the entire working area
Pay attention to other people in the working area
Never transport the load above people
Always keep the loads centre of gravity in the working area of transportation or lifting devices (cranes, chain hoists, construction vehicles etc)
The working area must be secured by the Operator. The persons/equipment necessary to secure this area must be present during the lifting/transportation process.
IT IS FORBIDDEN TO BE UNDER OR IN PROXIMITY OF THE LIFTED LOAD AND CARE MUST BE TAKEN NOT TO LIFT LOAD OVER PERSONNEL</td></tr>
</table>

Alarm System

The machine is fitted with an audible and visual alarm (diag. 2) indication system comprised of:

- Red indicator light – visual indication of vacuum level dropping below 40%
- Audible Buzzer – audible indication of vacuum level dropping below 40%.
- When the machine is switched on the alarm system will sound a low vacuum alarm condition until 40% vacuum level is achieved or should the level drop below 40%.
- The alarm should be tested each day before use. Firstly, reduce the vacuum reservoir to zero, switch on machine, the alarm system will operate until the vacuum level of 40% and above is achieved when the alarm will cease, and the systems OK light will illuminate. Machine should NOT be used if the system does not operate as described. Report malfunction immediately.

Reminder! Serious injury/death may be caused by not following these guidelines.

The Quattuor 500 is fitted with a vacuum guage (diag1) which will indicate the level of vacuum achieved, the guage is calibrated from 0-100%. The GREEN zone on the guage indicates level of vacuum required before lifting can commence.

The operator must have a clear view of the guage during operating as this will indicate any decrease in vacuum levels.

WARNING! Do not attempt to lift load if guage indicates less than 40%. Should levels drop during use and/or if alarm system sounds, lower the load to a safe position immediately.

diag.2.

Noise Declaration

The A – weighted time averaged emission sound pressure (LEQ) measured at a horizontal distance of 1M from the centre of the unit does not exceed 83 db

diag 3

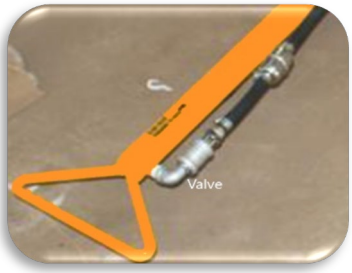
The unit is fitted with two off fork shoes/1 off crane lift point diag3. The lifting capacity of the crane should be sufficient for the sum loading of lifter and load 175kgs + 1500 = 1675kgs.

If the capacity of the lifting gear is much higher than lifter capacity of the Quattuor 1500, then care should be taken that acceleration time does not exceed 1 metre/sec2.

Operating the unit

Switch unit on by pushing the green on/off switch as illustrated (diag 4). The unit will start immediately and the power switch will illuminate – ensure the valve is in off position as shown (valve slid up to top position diag 5) and allow vacuum to build up until the alarm stops and the green lamp illuminates. Safe lifting is only possible when the load is correctly divided over the suction pad – the unit should be centred on the load to be lifted. Unit is then lowered onto the load ensuring that it is pressed against load.

diag 4



diag 5

diag 4

illustration purpose only

The unit should be centred on plate to be lifted. Unit is then lowered onto plate ensuring that the pads do not overlap material being lifted and that all pads are pressed against plate.

To activate control valve diag 5– slide valve toward filter – vacuumisation takes place within I second. To release plate, operator must slide valve back quickly – ensure that plate is adequately supported and the operator is well clear of any possible material shift after deactivating the suction pads.

Before lifting a load please note the following:

- Is the unit capacity adequate for the load?
- Is the length of the load appropriate?
- Is the surface of the plate free from anything which may impede sealing?
- Is the surface free from flaws/holes etc which could prevent the pad from sealing?

IT IS PROHIBITED TO BE UNDER OR NEAR THE PLATE DURING LIFTING – ENSURE AREA IS CLEAR OF PERSONNEL AND ONLY OPERATOR SHOULD BE WITHIN 2 METRES.

Suction Pads

The Quattuor 1500 comes supplied with 4 heavy duty suction Pads (see chart below) Isolator valve on each pad for smaller sections adjustable along X-Beam.

Pad Type	Dimensions	Construction	Seal	SWL
SP 4.5/4.5	450mm x 450mm	Steel	40x25 Hardwear Rubber suitable for rough finish	330kg each @ safety factor 2

Reminder! Leave unit switched on during use – during periods of inactivity the pumps will switch off automatically to save power – pumps will restart on demand.

ELEVATING EXPECTATION

Switch unit off at the end of shift and put on charge using the charger unit provided diag 7

Disconnecting

To switch the machine off, press green on/off button.

Charging

To charge the Quattuor 1500, open lid of charger socket and plug in Electronic Smart Charger provided diag 7, battery levels will be displayed on charger LCD display.

Reminder! We accept no liability for damage to batteries or charging system due to misuse or under charging. Batteries should be treated as a consumable item and are not covered by guarantee.

diag 7 (illustration purposes only)

Storage

Whilst not in use, you are advised to keep pads off the floor when wet. During long term storage the batteries should be charged once a week using charger supplied. The Quattuor 1500 should be kept in a dry area.

ELEVATING EXPECTATIONS

MAINTENANCE

Daily Checks

- Check vacuum level reaches capacity each time before use
- Check rubber seals for damage and/or wear. Unit MUST not be used if seals are badly worn, ripped, damaged. New seals can be inserted into seal profile using insert bar at an angle of 45 deg. diag 8. Check ALL vacuum hoses and fittings regularly for damage and replace if required
- Check all warning information labels are clearly visible, if worn or missing please contact Autem Vacuum Lifters Ltd for replacements

diag 8

Daily

Check that the alarm system is operating properly.
To test the system, ensure that the stored vacuum
reservoir is depleted, switch on the machine, the
alarm will sound/illuminate until the
vacuum level is above 40%, the alarm indicators will
now cease and the unit is ready to lift.

Reminder! Do not use the machine if the alarm system does not operate as described.

ELEVATING EXPECTATIONS

Maintenance cont.

Weekly Checks

- Examine all hoses and fittings for damage and/or wear.
- Check valve is clean and moving freely.
- Check all suspension points/pins for damage.

Please note that conditions in which machine is stored will affect the amount of attention the unit will require.

Monthly Checks

- Inspect shackles and suspension points, if applicable, when the cross section is reduced by over 10% replace immediately.
- Check filter element on filter between reservoir and valve is clean.

ELEVATING EXPECTATIONS

Troubleshooting

Vacuum System:

Vacuum percentage is below 40%, cause:

- Leakage in the vacuum hoses or badly applied hose clips.
- The seals in the suction pads have been damaged.
- The filter is blocked.

Remedy:

- Change the vacuum hoses or clips.
- Change the seal in the suction pads.
- Clean the filters.
- Demount the in-line valve, clean blast with air and remount.

Electrical System:

The vacuum pumps cannot be started, cause:

- The MCB fuse has tripped off.
- Low battery level – check the battery level on the voltmeter.

Remedy:

- Reset MCB'S and retry.
- Put unit on charge.

Alarm System:

The alarm system is not switched off when the vacuum percentage is over 40%, cause**:**

- The vacuum switch has been damaged.

Remedy:

- Change the vacuum switch or readjust.

Please contact us if you require any further information.

ELEVATING EXPECTATIONS

Part No	Item Description	Product Code
SB6B.25	Spiral Wrap Sleeving Size: 6mm OD (bundle dia. 5-30mm) Length; 25m bag	P00299-25
R13-112B2G12	On/Off Round Mini Rocker Switch with Green Light – 12v	P00727
CG 1001	DIN ISO 4165 Plug – 16a Max	P00776
JH-RS-5015	Panel Mounted DIN ISO 4165/Hella Power Socket-20A Max	P01961
IA06-M-04G	¼ BSP ISO A Q/R Female Prob	
IA06-F-04G	¼ BSP ISO A Q/R Female CA	
# 0-381-65	Circuit Breaker 12/24 Volt	
#-381-99	Circuit Breaker Dust Cap BG	
#0-531-24	Switch Rocker Round On/Off 10amps	
#0-534-10	Voltmeter Illuminated FOR 12v	
#0-562-12	Buzzer 1amp	
200017	Sensor 3amp	
200018	Red Warning Light 1amp	
200019	Charger 4amp	
FF5079	Fuel Strainer	
RPZF1	Pin Relay Socket DIN Rail	124-0201
ROLP/R/S/3	Red 32 Tone Sounder 9-28v dc 102db	529-4424
RPM12JD	Non-Latching Relay SPDT 15a @ 250 v ac	179-7311
ZBY2303	Legend Plate	342-2942
ZB5AH053	Round Orange-Latching Harmony XB5 Series,22mm	746-9175
1SNA176667R0400	BJMI Jumper Bar	447-428
ZBVJ55	Harmony XB Light Block 12V	553-866

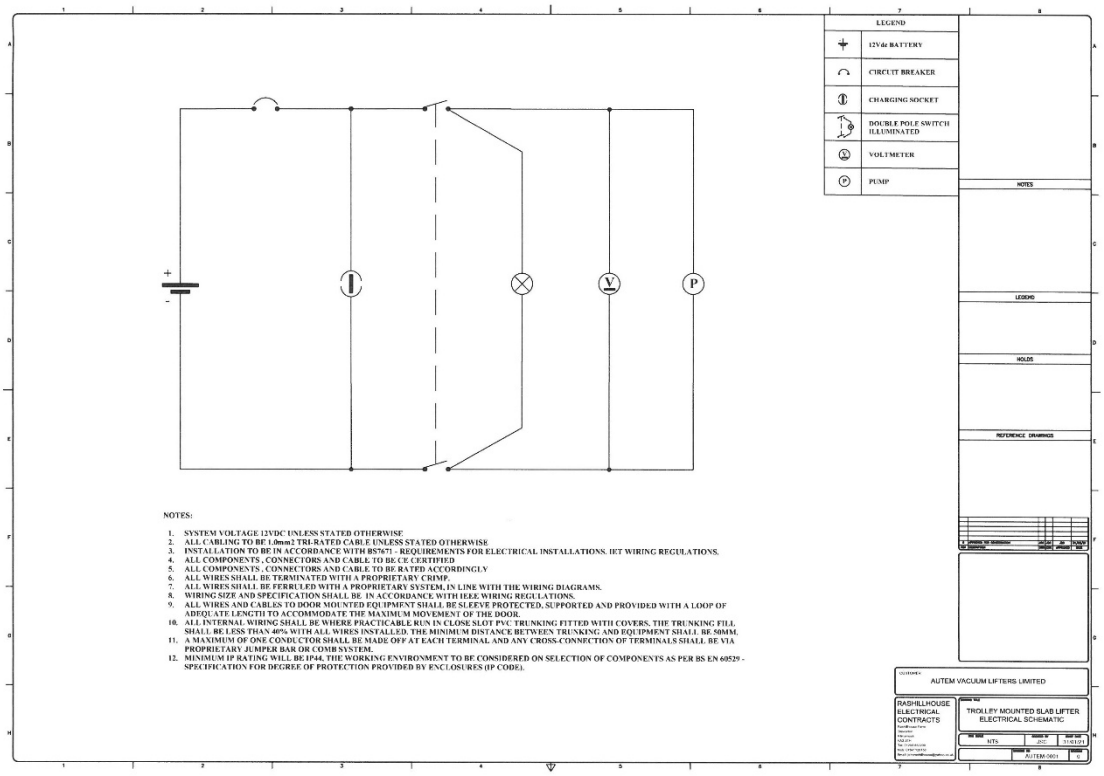
Part No	Item Description	Product Code
ZBE1015	Harmony XB Contact Block 1NO	553-973
1SNA118368R1600	FEM End Section	424-866

1SNK900001R0000	BAM4 Series ATEX End Stop	666-3357
QBS-0202	Red LED Beacon 11-35Vdc	309-6010
RXZE2S111M	Pin Relay Socket DIN Rail 250v	884-1288
ISNA115116RO700	Standard Din Rail Terminal 800V ac	424-759
ISNA115657R2500	Fused DIN Rail 630v	210-4570
ISNA116951R1500	FEM End Section	484-3952
XB54AZ101	Harmony XB5 Contact Block-1NO	331-0445
QB0203	Flashguard QBS Green Xenon Beacon, 12v dc, 24v dc	312-5398
RXM3AB2JD	Coil Non-Latching Relay 3PDT, 10a Switching Current Plug In	884-1528
200023	Main Frame	
200022	Pad	
	Pneumatic 14” Wheels	5056051480-433
	Hose Clamp	
200024	2 x Nuts	
200025	Cotter Pin and Clip	
47-SB303020D	Metal Enclosure	IP66
200027	4 x Bolts to attach Electric Box	
200028	Handgrips	
MOSS25 – 60 X 50 50LE	Rubber Seal	
	Wiring Kit	
	Dual Head Pump	

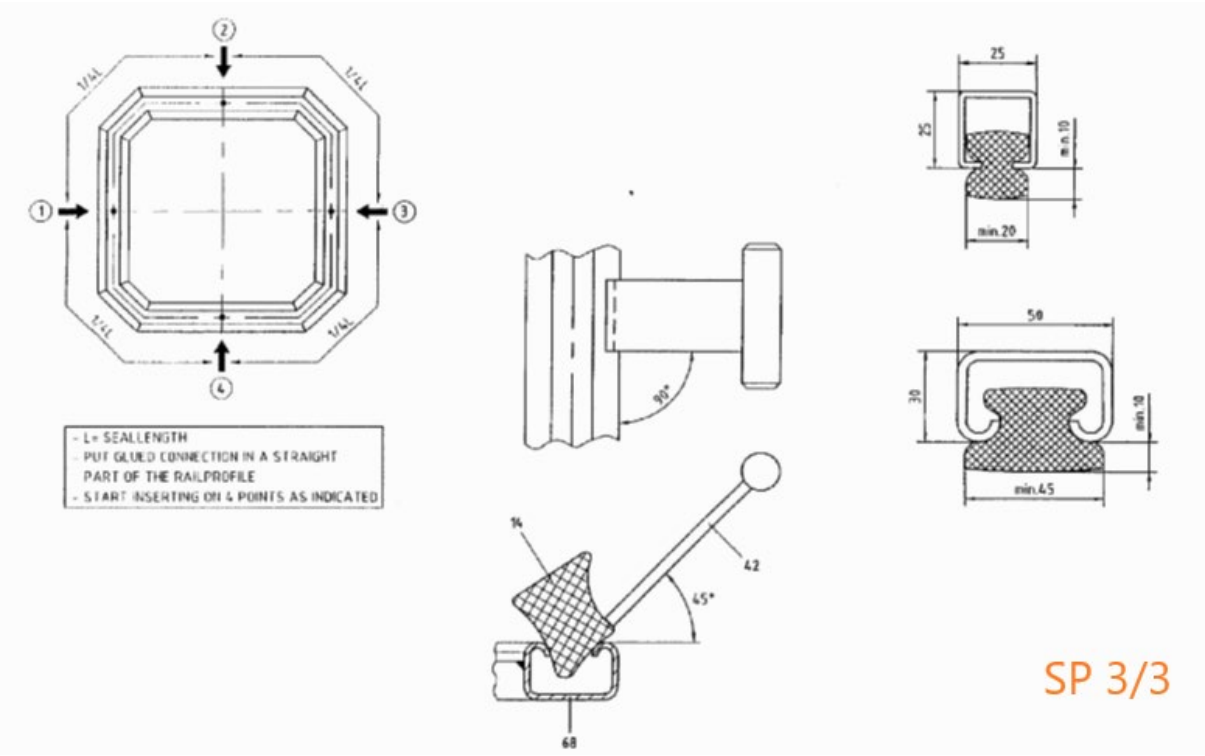
Only replace part using components sourced directly from Autem Vacuum Lifters Ltd www.vacuumlifters.co.uk

ELEVATING EXPECTATIONS

Wiring Diagram



Pad Specification



For more information on replaceable parts please contact us

www.autemvacuumlifters.co.uk

Drawing Number: WFBOO2

Revision: 002

Autem Vacuum Lifters Ltd

Westacre, Fenwick, Kilmarnock KA3 6AS

Product	Vacuum Lifting Device
Model/Type	
Serial Number	
Un-Laden Weight	
Year of Construction	20
Minimum Load	
S.W.L	

"Warning – Lifting above 1.8 M is prohibited
Until a lifting plan is in place"

Size = 100mmX 70mm

Material= 1.0mm Satin Silver Aluminium

Colour = Black

Adhesive = Nitto D9605

Tolerance = ±0.5mm

GB Declaration of Conformity

In accordance with European Parliament and Council Decision No 768/2008/EC Annex III

1. *Product model / product:* *Quattuor*

   Product Vacuum Lifter

   Model/type 1500

   Batch/serial no.

2. *Manufacturer*

   Name Autem Vacuum Lifters Ltd

Address Westacre, Fenwick, Kilmarnock KA3 6AS

3. *This declaration is issued under the sole responsibility of the manufacturer.*
4. *Object of the declaration:* Vacuum Lifter
   Product Quattuor 1500
5. *The object of the declaration as described above is in conformity with the relevant Union harmonisation legislation:*

   SI 2008 No 1597 Supply of Machinery (safety) Regulations 2008 (Amendment) Regulations 2011

   SI2016 No 1091 Electromagnetic Compatibility (EMC) Regulations 2016

   SI 2012 No 3032 The Restriction of Hazardous Substance Directive (Amendment) Regulations 2019

6. *References to the relevant harmonised standards used or reference to the other technical specifications in relation to which conformity is declared:*

Reference & Date	Title
BS EN 12100:2010	Safety of machinery General principles for design Risk Assessment and risk reduction
BS EN 13155:2003+A2:2009	Cranes – Safety – Non-fixed load lifting attachments
BS EN 601204-1:2018	Safety of machinery. Electrical equipment of machines. General requirements
BS EN IEC 61000-6-2: 2019	Electromagnetic compatibility (EMC). Generic standards. Immunity standard for industrial environments
BS EN IEC 61000-6-4:2019	Electromagnetic compatibility (EMC). Generic standards. Emission standard for industrial environments

Signed for and behalf of: Autem Vacuum Lifters Ltd

Place of issue: Westacre, fenwick, Kilmarnock KA3 6AS

Date of issue:

Name:

Function: Director

Signature: