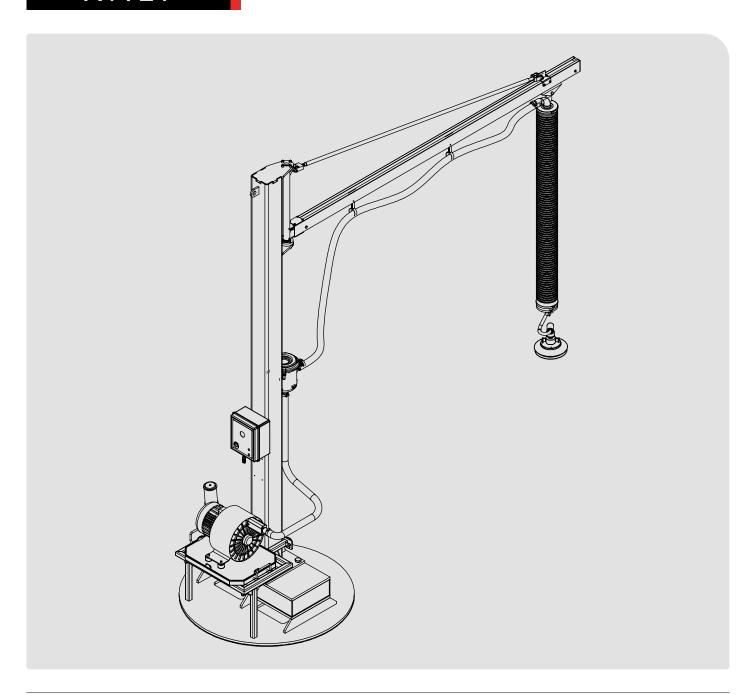




VACUUM TUBE LIFTER

AVTL 1



CREATED BY

Marketing Department

Published on: October 2024







	IDEX	Page
01	OVERVIEW	
	Introduction Structure and function description Dimensions, drawing and parts list	04 05 09
02	SAFETY INSTRUCTIONS	
	General Warning	14 16
03	ASSEMBLY	
	Assembly - Overview Assembly - Details	18 19
04	USER INSTRUCTIONS	
	Operating the Lifter Changing the suction pad	20 20
05	MAINTENANCE	
	Maintenance schedule Vacuum pump maintenance Vacuum filter maintenance Vacuum pad maintenance	21 21 21 22
06	PREVENTIVE MAINTENANCE CHECKLIST	23
07	TROUBLESHOOT	24
80	WARRANTY	25
09	LIFTING AND LOWERING GUIDELINES	26
10	AARDWOLF SERVICES	27



Dear Customer,

Thank you for choosing the Vacuum Tube Lifter AVTL1.

Please read the manual carefully before use and keep it readily accessible beside the vacuum lifter at all times.

If you have any questions, require spare parts, or need to report any issues, please contact the Aardwolf distributor at your location, provide the product code and serial number, and send them to info@aardwolf.com.au for assistance.

We hope this advanced tool meets your needs and exceeds your expectations.

Best regards,

Aarwolf Industries

info@aardwolf.com.au www.aardwolf.com.au



01 OVERVIEW



INTRODUCTION

The new Aardwolf Vacuum Tube Lifter AVTL1 enhances lifting operations with exceptional flexibility and efficiency. Designed primarily to handle carton boxes, weighing up to 78 kg (172 lb), it boosts productivity and safety in industrial settings.

Key features

- ➤ High-Performance Vacuum Pump Ensures high-speed, energy-efficient performance to enhance operational efficiency.
- Versatile Operation Modes Offers manual and remote operation modes for effortless adaptation to different needs.
- Single Control Head

 Designed for one-handed operation, easy for the user.
- ➤ 270-degree Manual Rotation

 Mobile Over Braced Jib Crane gives

 270-degree floor coverage, allowing

 unrestricted placement of machinery and
 equipment.
- Movable Counter Base Facilitates easy positioning and stability, ensuring uninterrupted workflow during lifting operations.
- ➤ Flexible Pad Options

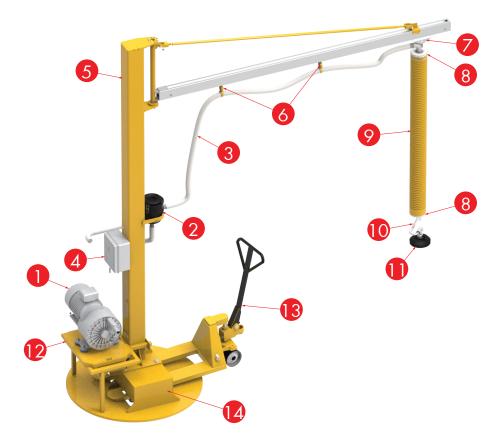
 Plunger knobs allow quick switching between pads, accommodating various lifting requirements seamlessly.







STRUCTURE AND FUNCTION DESCRIPTION



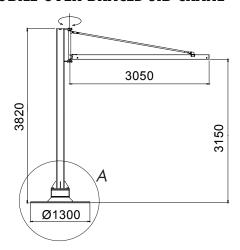
MOBILE WORKSTATION

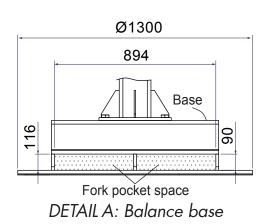
AVTL1

- 1. Blower vacuum pump
- 2. Vacuum filter
- 3. Vacuum supply hose
- 4. Electric control box
- 5. Mobile over braced jib crane
- 6. Rail cable trolleys
- 7. Trolley for load
- 8. Clamp for fastening
- 9. Lifting tube
- 10. Single control head
- 11. Single bellow
- 12. Support stand
- 13. Hand pallet truck
- 14. Balance base

Product image for illustration purposes only. Actual product may vary.

MOBILE OVER BRACED JIB CRANE



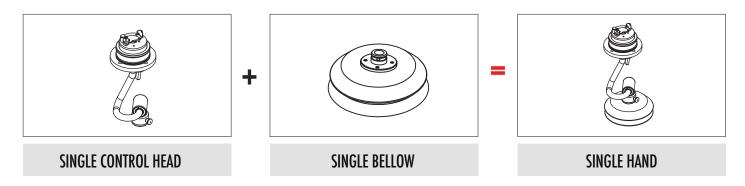


The column-mounted design maximizes floor space while providing strong stability, and the over braced arm offers extended reach with high load capacity. Its 270-degree swivel range allows for flexible operation, ideal for various industrial settings.

MOBILE OVER BRACED	Arm length	Arm height	Crane height	Balance base	Capacity
	(mm/ in)	(mm/ in)	(mm/ in)	(kg/lb)	(kg/lb)
JIB CRANE	3050/ 120	3150/124	3820 - 150.4	500/1102	100/221



COMFORTABLE HAND



The Single Hand features a Single Control Head and a Single Bellow attached to a \varnothing 120 mm vacuum tube, handling loads up to 78 kg (172 lb).

SINGLE CONTROL HEAD

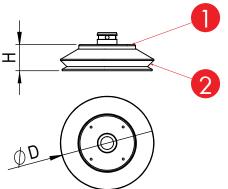
Equipped with a 360-degree Rotation Pivot, users can adjust the direction of the goods as needed and operate it easily with one hand.



- 1. Valve base
- 2. Balancing knob
- 3. Handle bar 1(*)
- 4. Handle bar 2(**)
- 5. Pipeline
- 6. 360° rotation pivot
- 7. Plungers knob

SINGLE BELLOW

The Single Bellow is a suction foot designed for lifting boxes, barrels, slabs and other smooth-surfaced transport goods.





- 1. Base plate
- 2. Bellow pad

OVAL FOAM	Dimension (mm/ in)	Non-porous Load (kg/ lb)	Porous Load (kg/ lb)
BELLOW 200	Ø200 - H70/ Ø8 - 2.8	35/77	17/37
BELLOW 250	Ø250 - H75/ Ø10 - 2.9	54/119	27/60
BELLOW 300	Ø300 - H80/ Ø12 - 3.1	78/ 172	39/ 86

(*) (**): Release valves are adjusted by handle bars.



SUCTION PAD TYPE OPTIONS

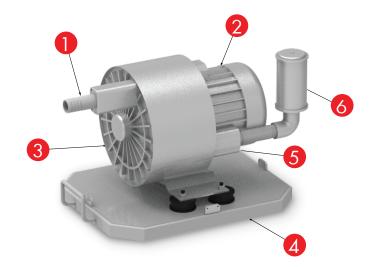
Additionally, we offer three optional types of suction pads, each suited for various applications.

NAME	lmage	Working load limit (kg/ lb)	Description		
OVAL FOAM		Non-porous load: 60/132 Porous load: 30/66 (With largest pad size)	The Oval Foam is designed for safely lifting bags and uneven-surface goods.		
DOUBLE BELLOW		Non-porous load: 27/60 Porous load: 14/31 (With largest pad size)	The Double Bellow, with two suction cups attached to an aluminum frame, is ideal for lifting small carton boxes, suitcases, and smooth loads.		
QUADRUPLE BELLOW		Non-porous load: 54/119 Porous load: 27/60 (With largest pad size)	The Quadruple Bellow, featuring four suction cups on an aluminum frame, is perfect for lifting large or long carton boxes and flat, light loads.		

BLOWER VACUUM PUMP

A blower vacuum pump is a mechanical device that serves dual purposes: generating airflow and creating vacuum. The pump includes:

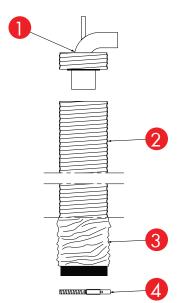
- 1. Inlet port
- 2. Pump motor
- 3. Pump chamber
- 4. Pump base
- 5. Exhaust port
- 6. Silencer



STORM		Out put (kV)	Voltage (V)	Rated airflow (m³/h)	Rated vacuum/ Rated pressure (kPa)
STORM 3	50 Hz	3.3	200 - 240∆/345 - 415Y	87	-50/75
4HB 420 H56	60 Hz	3.8	220 - 275∆/380 - 480Y	105	-51/85



LIFTING TUBE



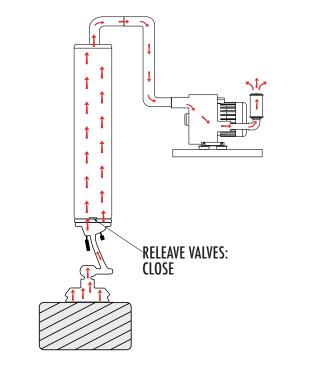
The Aardwolf lifting tube, connected to a crane via a swivel joint and secured to the control head with a bottom clamp, is designed for lifting, holding, and lowering products by adjusting the vacuum pressure.

The tube rises when the vacuum pressure increases and descends when it decreases. In case of a vacuum supply failure or blower malfunction, the tube and its load descend slowly, ensuring safe transport.

In AVTL1 version, we use Ø120 mm tube.

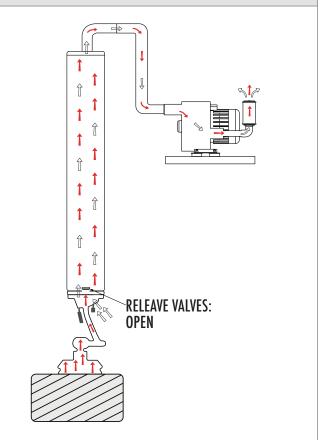
- 1. Top swivel
- 2. Lifting tube
- 3. Cover socks
- 4. Clamp for fastening

LOWERING AND RELEASING THE LOAD



Lifting tube is raised gradually when the Lifter starts operating.

PICKING UP AND LIFTING THE LOAD



Squeeze handle bar 1 for lowering load. Squeeze both handle bars for releasing load after moving the load to the desired position.

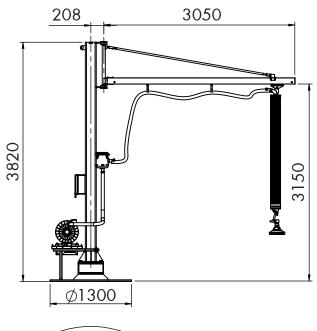


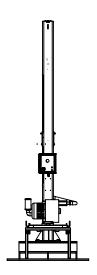


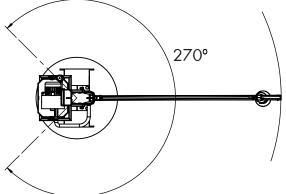
DIMENSIONS, DRAWING AND PARTS LIST

DIMENSIONS - AVTL1

DIMENSIONS





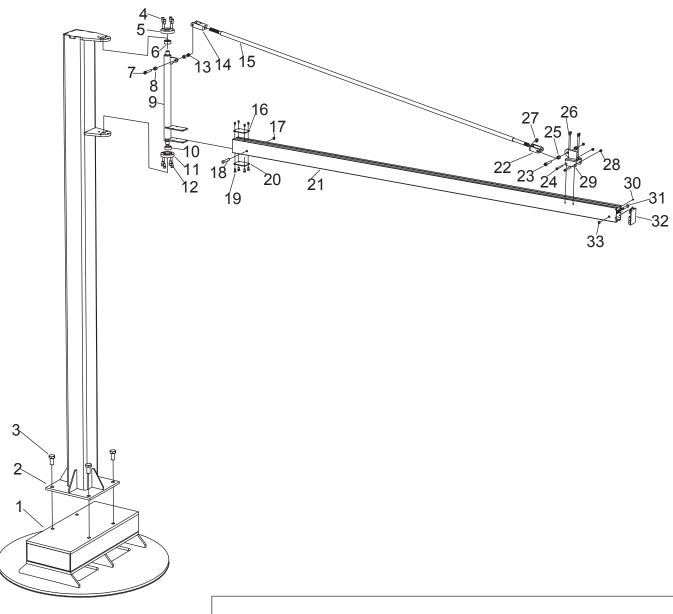


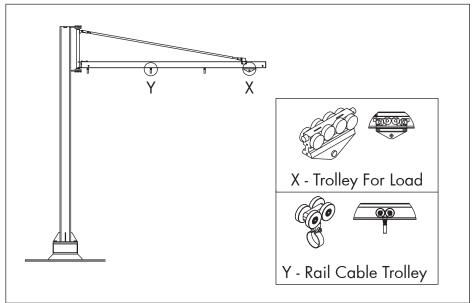
SPECIFICATIONS

AVTL1	METRIC	IMPERIAL
Mobile crane capacity	100 kg	220 lb
Crane height	3150 mm	124 in
Arm length	3050 mm	120 in
Tube size	120 mm	4.7 in
Lifting capacity of the vacuum head (with largest pad size)	78 kg	1 <i>7</i> 2 lb
Vacuum pump flow	87~105 m³/hour	-



DRAWING - MOBILE OVER BRACED JIB CRANE







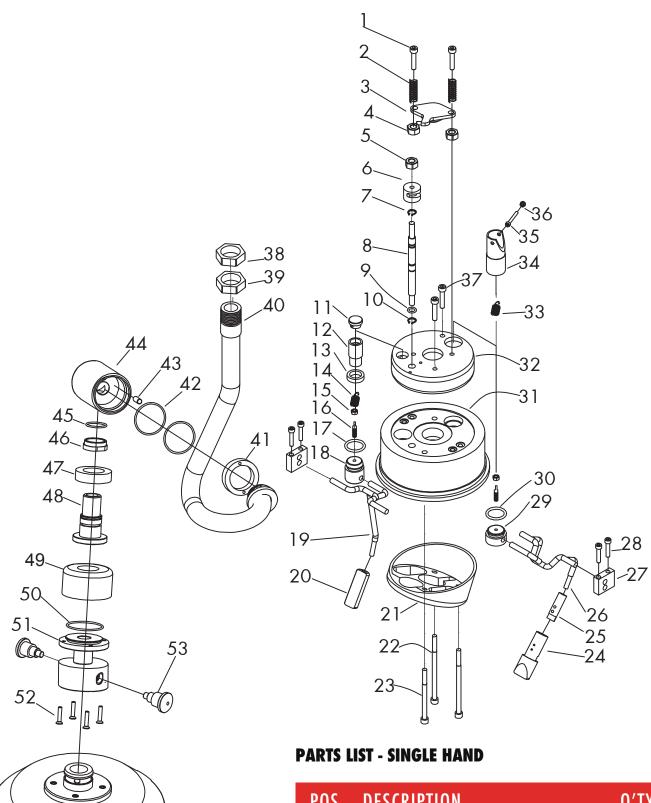
PARTS LIST - MOBILE OVER BRACED JIB CRANE

POS.	DESCRIPTION	Q'TY
1	Counter base	1
2	Square column	1
3	Bolt M24 x 70	4
4	Socket head cap screw M10 x60	4
5	Bearing hub	1
6	22205E-Bearing	1
7	Socket head cap screw M12 x60	1
8	Washer 12	2
9	Crane shaft	1
10	33205/Q -bearing	1
11	Bearing bow	1
12	Socket head cap screw M10 x60	4
13	Nut M12	2
14	Adjust block	1
15	Support tube	1
16	Hold bracket	1
17	Circlip 12	1
18	Hold pin 12	1
19	Socket head cap screw M6x30	8
20	Hold bracket	1
21	Aluminum frame 125	1
22	U bracket	1
23	Socket head cap screw M12 x60	1
24	Socket head cap screw M8x80	2
25	Washer 12	2

POS.	DESCRIPTION	Q'TY
26	Socket head cap screw M6x30	4
27	Nylon nut M20	2
28	Nut M8	2
29	Frame bracket	1
30	Circlip 12	1
31	Hold Pin 12	1
32	Frame cap	1
33	Circlip 12	1



DRAWING - SINGLE HAND



POS.	DESCRIPTION	Q'TY
1	Socket head cap screw M6x30	2
2	Spring 0.65*10*30 step 3	2
3	Gate cam valve	1



PARTS LIST - SINGLE HAND (CONT.)

POS.	DESCRIPTION	Q'TY
4	Nylon Nut M5	2
5	Nylon Nut M5	1
6	Cam Ø20	1
7	Circe lip Ø8	1
8	Pin Ø8	1
9	Oring 1.78*4.47	2
10	Circe lip Ø8	1
11	Spring tube-d1	1
12	Spring tube-d2	1
13	Spring tube-d3	1
14	Spring C-AUU6-30	1
15	Nut M4	2
16	AW-bolt M4	2
1 <i>7</i>	Oring 3*18	1
18	Plastic gate 1	1
19	Handle bar 1	1
20	Handle pad	1
21	Alu cover	1
22	Socket head cap screw M5x80	2
23	Socket head cap screw M5x60	1
24	Handle pad 2	1
25	Pin Handle pad 2	2
26	Handle bar 2	2
27	Rectangle hold	2
28	Socket head cap screw M5x25	4

POS.	DESCRIPTION	Q'TY
29	Plastic gate 2	1
30	Oring 3*18	1
31	Plastic body	1
32	Plastic cap	1
33	Spring C-AUU6-30	1
34	Alu tube	1
35	Socket head cap screw M4x25	1
36	Nut M4	1
37	Socket head cap screw M5x25	2
38	Nut M24*1.5*6	1
39	Nut M24*1.5*10	1
40	Aluminum tube vacuum	1
41	Ring cap M42*1*10	1
42	Oring Ø30x3.5	2
43	Screw cone point M6x15	1
44	Rotary point-d2	1
45	Oring 18*2.5	1
46	Rotary point-d3	1
47	Bearing 51105	1
48	Rotary point-d4	1
49	Rotary point-d5	1
50	Oring 38*2	1
51	Rotary point-d6	2
52	Screw head cone M4x20	4
53	Plungers knob M16	2



02 SAFETY INSTRUCTIONS



GENERAL

PREPARATION

Manual Availability

Ensure the operator's manual is available and understood by all operators.

Material Suitability

Only lift materials suitable for vacuum handling, considering internal stability and porosity.

Surface Safety

Do not attach the suction pad to slippery surfaces where the load could slide off.

PRE-USE CHECKS

→ Tests

Perform load, vacuum, and pumping tests to ensure the Lifter works well.

Vacuum Pad

Check that the vacuum pad surface is clean and free from dirt and oil.

→ Obstructions

Ensure there are no obstructions during operation.

→ Vertical Positioning

Ensure the lifter and the crane are positioned vertically over the load before lifting.

Ensure all connections are secure before operating.

OPERATING INSTRUCTIONS

Placement

Center vacuum pad on the load.

Personnel

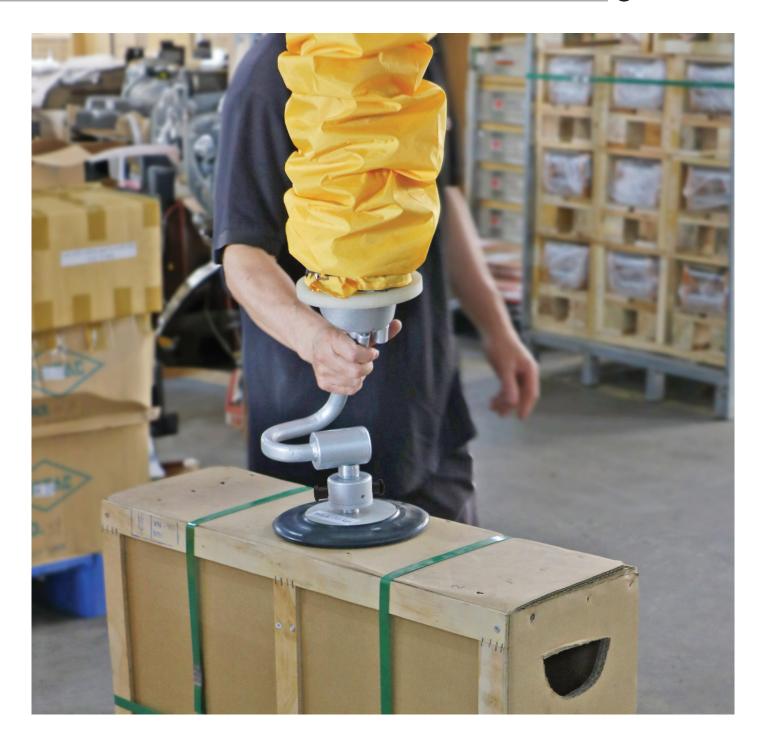
Only competent and authorized personnel should operate the Lifter.

Protective Equipment

Operators must always wear appropriate protective equipment.

Operation

Operate the lifter with light force on the L-handle to avoid jerky movements. Switch off the lifter during service and cleaning. Handle the vacuum unit carefully.



SAFETY PRECAUTIONS

- Never lift a load over people. Ensure no one is under the load during lifting.
- **№** Power Source Switch off the Lifter when not in use.
- Damaged Equipment Do not operate a Lifter that is damaged, malfunctioning, or missing parts.
- → Operation The state of suspension without a load must be set before initial operation.





WARNINGS

Always

Wear personal protective equipment.

Use one load per operation.

Check for Damage: Always inspect the lifter for damage, malfunctioning parts, or missing components before each use.

Maintain Clean Surfaces: Always ensure that the contact surfaces of the load and all vacuum pads are clean before applying the pads.

Power Source: Always ensure the power source is available throughout the entire lifting operation.

Use Appropriate Load Characteristics:
Always ensure the load is within the specified W.L.L.

Conduct Regular Maintenance: Always perform regular inspections and maintenance as outlined in the manual to ensure the Lifter is in good working condition.

Follow Operating Procedures: Always follow the specified operating procedures when lifting, rotating, or tilting loads.

Never

Operate a Damaged Lifter: Never operate a Lifter that is damaged, malfunctioning, or missing parts.

Never use the Lifter as a forklift truck attachment.

Exceed W.L.L: Never exceed the lifter's W.L.L or attempt to lift loads it is not designed for.

Lift Unstable Loads: Never attempt to lift a cracked or broken load.

Operate Without Clean Pads: Never use the Lifter if any vacuum pad's sealing edge foam seal is cut, damaged, or contaminated.

Remove Warning Labels: Never remove or obscure any warning labels on the lifter.

Never squeeze both valves simultaneously while moving the load to avoid damaging the pad or dropping the load.

Lift Over People: Never lift a load over people or allow people to ride on the Lifter or the load.

Leave Suspended Loads Unattended: Never leave a suspended load unattended or lift it higher than necessary.

Modify the Lifter: Never modify the lifter, as modifications may compromise its safety and performance.

Use in Dangerous Environments: Never use the Lifter in inherently dangerous environments or likely to compromise its ability to function, such as areas containing explosives or caustic chemicals.

Never transport live animals.

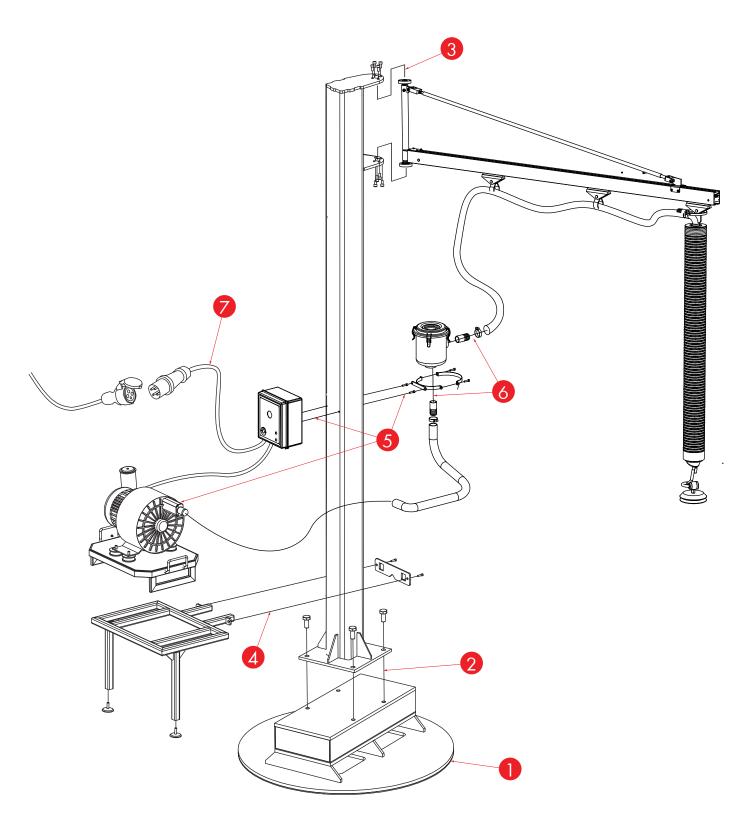




03 ASSEMBLY



ASSEMBLY - OVERVIEW



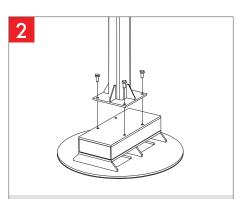




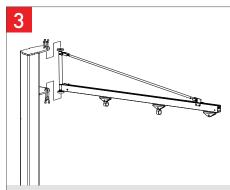
ASSEMBLY - DETAILS



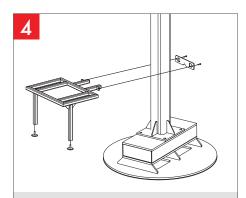
Place the Counter Base on a flat, level surface.



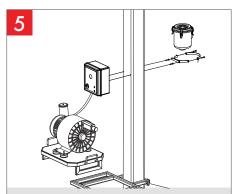
Mount the Crane Column on the counter base so the centers of 4 holes coincide. Secure with 4 bolts.



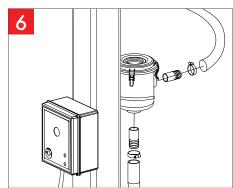
Mount the Crane Arm on the Crane Column.



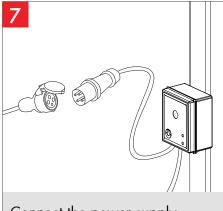
Secure the Pump Base with the bracket and 2 bolts.



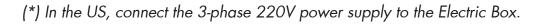
Position the pump on the Pump Base. Attach the Electrical Box to the Crane Column, then attach the Filter.



Connect the Air Hose to the Filter and Pump, using ring clamps.



Connect the power supply (3-phase 380V) to the Electric Box(*).





04 USER INSTRUCTIONS



OPERATING THE LIFTER

- 1 Power ON the Lifter (manual or remote control).
- 2 Position the Pad

Squeeze handle bar 1 to lower the lifting tube and place the pad in the center of the load. Press the pad slightly against the load.

- 3 Lift and Move the Load
 - Squeeze both handle bars for about 1 second to vacuum and lift the load.
 - Move the load to the desired position. Squeeze handle bar 1 if you need to lower the load.
- 4 Release the Load

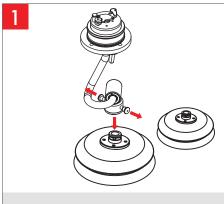
Squeeze both handle bars simultaneously and lift the control head up to release the load.

5 Power OFF the Lifter (manual or remote control).

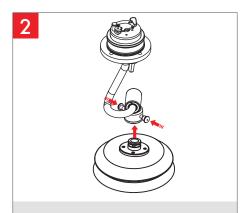
ျို

CHANGING THE SUCTION PAD

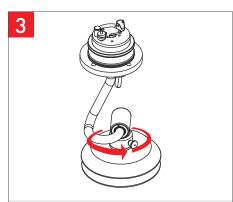
Depending on the application, the suction pad can be easily changed by removing and installing the Plungers Knob.



Pull and hold the two Plungers Knob to detach the current suction pad.



Attach and secure a new Suction Pad to the Control Head.



Slightly rotate the Control Head to lock the knobs into the pad's joint.



05 MAINTENANCE



MAINTENANCE SCHEDULE

A maintenance schedule is crucial for keeping equipment in optimal condition. It specifies routine tasks like inspections, cleaning, and part replacements at regular intervals. Following this schedule helps prevent breakdowns and extend equipment lifespan.



VACUUM PUMP MAINTENANCE

Inspect

Check overall condition, motor, power cord, and belt, and look for leaks or damages. Replace as needed.

Clean

- Clean filter, screen, blower parts, fan blades, and motor with mild soap and water; dry before reinstalling.
- Periodically clean the pump housing to remove debris and dust.

Lubricate

Lubricate shafts, bearings, and O-rings to reduce friction and wear.

Replace filter

Regularly replace filters to maintain clean fan blades, motors, coils, and heat exchangers.

Ensure unblocked ports

Keep inlet and exhaust ports clear to maintain efficiency.



VACUUM FILTER MAINTENANCE

Clean

Use a soft brush or compressed air to remove debris.

Inspect and replace

Check for signs of damage, such as tears or holes, and replace the filter if it is significantly worn or damaged.

Install

Turn off the vacuum pump before performing any maintenance.



Ensure the filter is dry and properly aligned before placing it back into the housing.



VACUUM PAD MAINTENANCE

Place

Do not place suction pads on the floor or other surfaces when not in use to prevent the vacuum blower's uncontrolled movements and potential overheating.

Clean

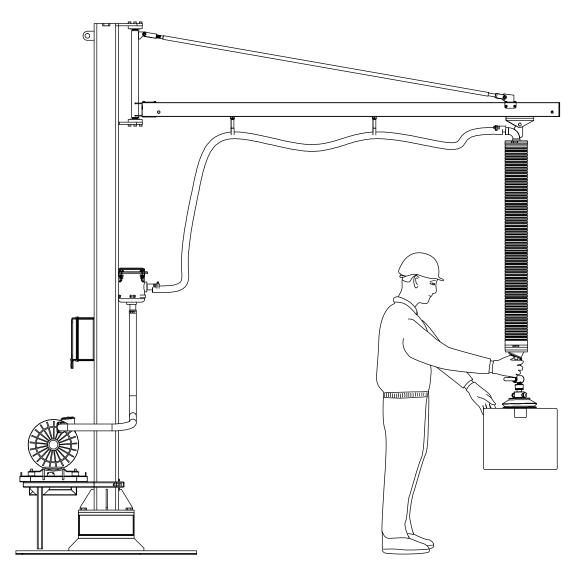
Avoid using solvents, petroleum, gasoline or harsh chemicals. Stick to mild cleaning solutions.

Protect

Use the pad cover when the lifter is not in use to protect the vacuum pad.

Store

Keep the pad in dry conditions to prevent damage from moisture.



06 PREVENTIVE MAINTENANCE CHECKLIST



By following maintenance checklists, you can help ensure that your vacuum lifter operates safely and effectively for a long time.

	IIIICI	inter operates safety and effectively for a long time.										
	DAI	DAILY CHECKS WEEKLY CHECKS MO			MON	THLY CH	HECKS	ANN	UAL CH	ECKS		
Note:	Inspect suction pads for cracks or worn sealing lips.	Look for signs of wear, damage, or leaks in the pump and its components.	Ensure all air hoses and connections are secure and free of leaks.	Inspect the crane system for any signs of damage or wear, and ensure that all bolts and pins are tightened and in place.	Check the air filter elements for dust and contaminants that could impair performance, clean as needed	Check lifting tube clamps, ensure they are firmly fitted.	Inspect the lifting tube for cracks, slits, holes, etc.	Inspect the crane system for any signs of damage or wear, and ensure that all bolts, nuts, and pins are tightened and in place.	Inspect the lifter's structure for visual damage, such as cracks or corrosion.	Schedule a professional inspection and certification of the entire unit.	Perform a thorough load capacity test to ensure the lifter can safely handle maximum loads.	Replace any non-functional parts or those showing excessive wear.
DAY DATE						CHE	CKED					
Monday												
Tuesday												
Wednesday												
Thursday												
Friday												
Saturday												
Sunday												
Monday												
Tuesday												
Wednesday												
Thursday												
Friday												
Saturday												
Sunday												

Note: Always refer to the specific maintenance manual provided by the manufacturer for more detailed instructions and safety information related to your particular model.



07 TROUBLESHOOT

PROBLEM	LIKELY CAUSED BY	ACTION REQUIRE
Vacuum lifter does not lift or exhibits reduced functionality	Vacuum pump not started	Check the function of the vacuum pump. Ensure it is properly installed and powered on.
	Load too heavy	Reduce the load. Ensure it does not exceed the lifter's maximum lifting capacity.
	Air leakage	Inspect all connections, air hoses and tube lift for leaks, cracks, holes, or loose hose clamps. Check the filter unit for any leaks.
	Dirty vacuum pump filter	Clean the filter insert. Refer to the maintenance section on cleaning the vacuum pump filter.
	Dirty vacuum pad	Clean the vacuum pad. Refer to the maintenance section on cleaning the vacuum pad.
	Vacuum pad installed incorrectly	Reinstall the vacuum pad correctly, ensuring the butterfly nuts are neither over-tightened nor under-tightened.
	Operating handle too high or low	Adjust the load balance both with and without the load. Ensure the balance is set correctly for comfortable operation.
Suction pad connection is not tight	Air leakage	Check and replace the foam seal on the pad if necessary.

Note: For serious issues or additional support, please get in touch with Aardwolf Technician Support at **info@aardwolf.com.au**. Our experts are ready to assist with any complex problems to ensure your equipment operates smoothly.

WARRANTY



PRODUCT CHECK AND REPORTING

Upon receiving the product, the buyer should verify, based on the spare parts list and attached spare drawings, that all spare parts are intact and not lost during shipment. Any damages or losses must be officially reported to Aardwolf Industries within eight days of purchase.



WARRANTY INFORMATION

The Vacuum Tube Lifter comes with a 12-month warranty from the date of purchase, following Aardwolf Industries warranty policy.



WARRANTY EXCLUSIONS

The warranty coverage does not apply if:

- The Lifter is handled incorrectly during maneuvering.
- The user fails to comply with the instructions provided in the manual.
- The Lifter's maximum W.L.L is exceeded.
- The specifications for the load thickness are not followed.
- Damages result from inadequate maintenance and inspections.
- Damage is due to improper storage.
- Repairs are performed by the user without permission from Aardwolf Industries.
- Unofficial spare parts are used.



DECLARATION OF CONFORMITY

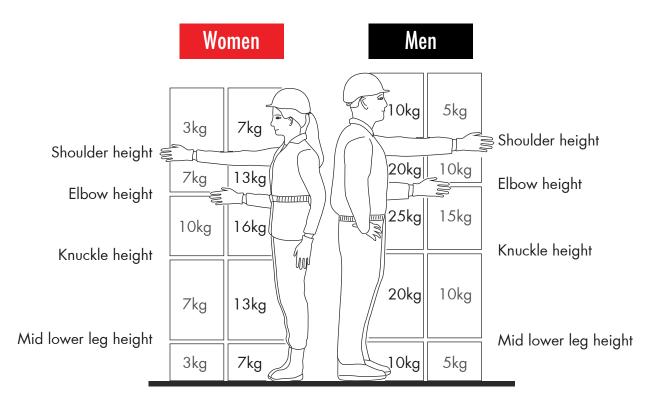
We declare that the Lifter conforms to the following standards:

- The Machinery Directive 2006/42/EC
- Australian Standard 4991-2004

Note: It is the user's responsibility to comply with state or local laws. The end user is responsible for using the equipment safely, in the manner it is designed for, and within the unit's rated capacity.



19 LIFTING AND LOWERING GUIDELINES





TWISTING

Reduce the guideline weights if the handler twists to the side during the operation. As a rough guide, reduce them by 10% if the handler twists beyond 45, and by 20% if the handler twists beyond 90.



FREQUENT LIFTING AND LOWERING

The guideline weights are for infrequent operations – up to about 30 operations per hour – where the pace of work is not forced, adequate pauses to rest or use different muscles are possible, and the load is not supported by the handler for any length of time. Reduce the weights if the operation is repeated more often. As a rough guide, reduce the weights by 30% if the operation is repeated once or twice a minute, by 50% if it is repeated 5–8 times a minute, and by 80% where it is repeated more than 12 times a minute.



THE PALAMATIC SOLUTION

All our vacuum tube lifters are designed to exceed the HSE guidelines and reduce operator effort and fatigue which reduces the chance of manual handling injuries and repetitive strain injuries of the arms, hands and wrists.

AARDWOLF SERVICES



GLOBAL CONTACT

Our sales network of local field representatives, international subsidiaries and trade partners ensures quick and competent information and consultation in 6 countries worldwide.

www.aardwolf.com.au



ONLINE DOCUMENTATION

Conveniently download catalogs and get comprehensive information about our products and services.

www.aardwolf.com.au/catalog.php



AARDWOLF PRODUCT VIDEOS

In short, easy-to-understand videos we explain the comprehensive functions offered by our products on our Youtube Channel. Take a look, it's worth it!

www.youtube.com/@Aardwolf.Industries



OR SCAN HERE

To visit our Youtube Channel





WE PROVIDE

Simple, Reliable, Cost Saving And Awesome Ideas For Your Business



FIND THE NEAREST AARDWOLF SERVICE CENTER

AUSTRALIA ********



1/5 Stanton Road, Seven Hills NSW 2147

Tel: 02 9838 8427

Email: enquiries@aardwolfaustralia.com Web: www.aardwolfaustralia.com

BULGARIA ==



Str. Usta Kolio Ficheto 33 Tel: +359 887 933 754 Email: adrian@toolrange.com

GERMANY **=**



Schulze-Delitzsch-Weg 2, 33175 Bad Lippspringe

Tel: 05252 8382830

Email: sales@toolrange.com.de



INDIA ==

Harmara Road, Industrial Area, Madanganj, Kishangarh, District- Ajmer, Rajasthan India 305801

Tel: 02 9838 8427

Email: sales@aardwolf.co.in Web: www.aardwolf.co.in

USA ==

9401 Norwalk Blvd, Santa Fe Springs, CA 90670

Tel: (562) 553-6050

Email: sales@aardwolfusa.com Web: www.aardwolfusa.com

1B, An Phu, Thuan An City, Binh Duong Province, Vietnam

Tel: +84 931 707 793 Email: info@aardwolf.com.au Web: www.aardwolf.com.au