INSTRUCTION MANUAL

Battery powered below the hook vacuum lifting device
for sandwich roof- and wall panels

Read this manual carefully before operating this lifter.

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A 1 Introduction

Dear reader,

This manual is subdivided in the following sections:

A **General section**
This section is intended for anyone who uses this manual.

B **Operators section**
This section is intended for anyone who utilizes and operates this device.

C **Technical section**
This section is intended for the specialist staff who take care for maintenance and repair of this device.

Depending your function you need to read carefully the belonging section.
To operate this device safely it is important that you strictly follow the instructions.

If you are in doubt, or face problems when use, maintenance or repair, please contact your authorized VIAVAC dealer. They will do their utmost to serve you in an adequate and quick way.

In the text of this manual the following symbols are used.

TIP:
Gives suggestions and advice to perform certain tasks in an easier and more effective way.

TAKE CARE
a remark with additional information, draws your attention for possible problems.

WARNING
If these instructions are not carefully being executed, this can result in (serious) injuries or even death.

These symbols indicate important information.
You need to be convinced that anyone who utilises this device has understood this information well.

This manual should be made available to anyone who operates, checks or repairs this device.

To have the manual available it should be stored at the designated spot together with the device.

A 2 EC-declaration of conformity

Complies to enclosure II A from directive 2006/42/EG

The manufacturer:

VIAVAC vacuum lifting BV
Bedrijfsweg 6
3411 NV Lopik
The Netherlands

Hereby declares that:

Machine : Vacuum lifter

Type : VIAVAC-CB (model 4)

Machine nr. : . . . . . .

Complies with the following directives:

- Machine directive 2006/42/EG with modifications
- Low voltage directive 2006/95/EG with modifications
- EMC directive 2004/108/EG with modifications

The following standards have been applied:

Safety of machinery	Basic concepts	EN-ISO 12100-1
Safety of machinery	Basic design principles	EN-ISO 12100-2
Safety of machinery	Principles of risk assessment	EN-ISO 14121
Safety of machinery	Audible and visual warning signals	EN 981+A1
Safety of machinery	Electrical equipment for machines	EN 60204-1:2001
Crane safety	Non-fixed load lifting attachments	EN 13155+A2

Date: . . - . . - . . . .

Signature

Arie de Groot
Managing director

A 3 Definitions

Operator Person or persons who operate and utilizes the vacuum lifter.

Lifting device Lifting crane, overhead crane, forklift truck or any other, well or not into a machine integrated lifting arrangement, where the vacuum lifter is suspended on and lifting tasks are being executed.

Load The object being transported and/or handled by the vacuum lifter.

Working load Limit The maximum weight of the load which can be transported safely with the vacuum lifter

Suction By actuating a valve, sucking the load fixed to the suction pad.

Aerating By actuating a valve, releasing the load by enabling air flowing to the suction pad

Maintenance expert Expert who is responsible for inspection, maintenance and repair of the vacuum lifting device.

Load ratio Ratio between the maximum calculated load which can be lifted with the device and the safe working load which is indicated on the device.

Testing ratio Ratio between the load, used for the static test of the vacuum lifter and the safe working load indicated on the device

Static test Test where the vacuum lifter should withstand a static force equivalent to 2x working load limit without permanent deformation and after removal of the force, there shall be no visible defects.

Holding time Test With the suction pad in vertical position, a (non porous) load corresponding the working load limit is lifted. After this, the main switch is switched off so the vacuum pump will not run anymore. The vacuum lifter should be able to hold the load for a prescribed time.

B 1 Operators declaration

The undersigned hereby declares that before operating this vacuum lifter, he has read and understood the operators section of this instruction manual and will follow the instructions and guidelines.

Control of the management on compliance is required.

DATE	NAME	SIGNATURE
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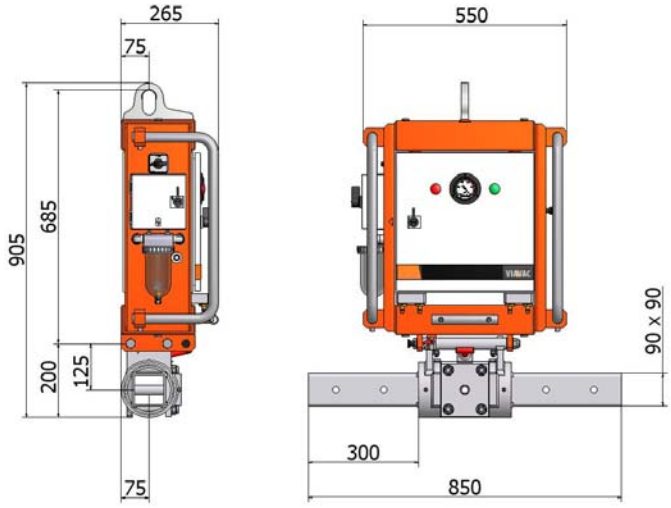
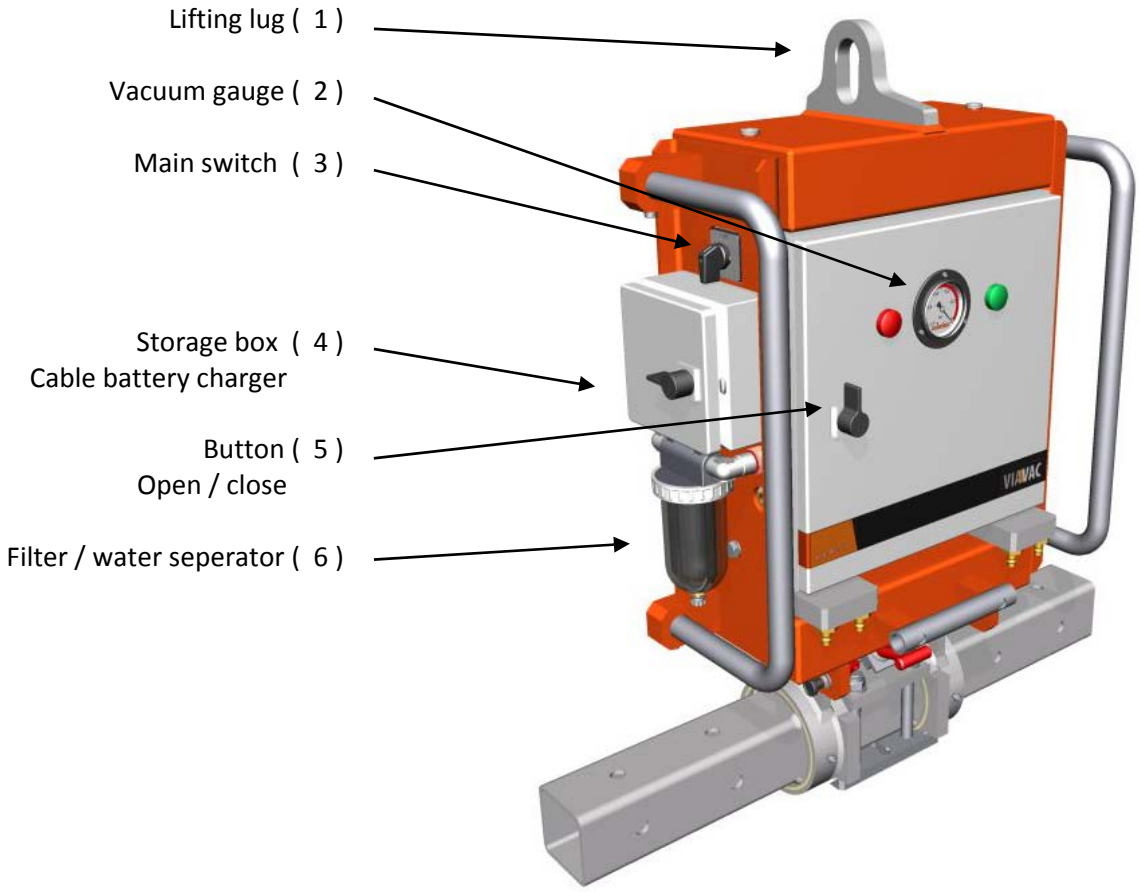
B 2 Operating limits

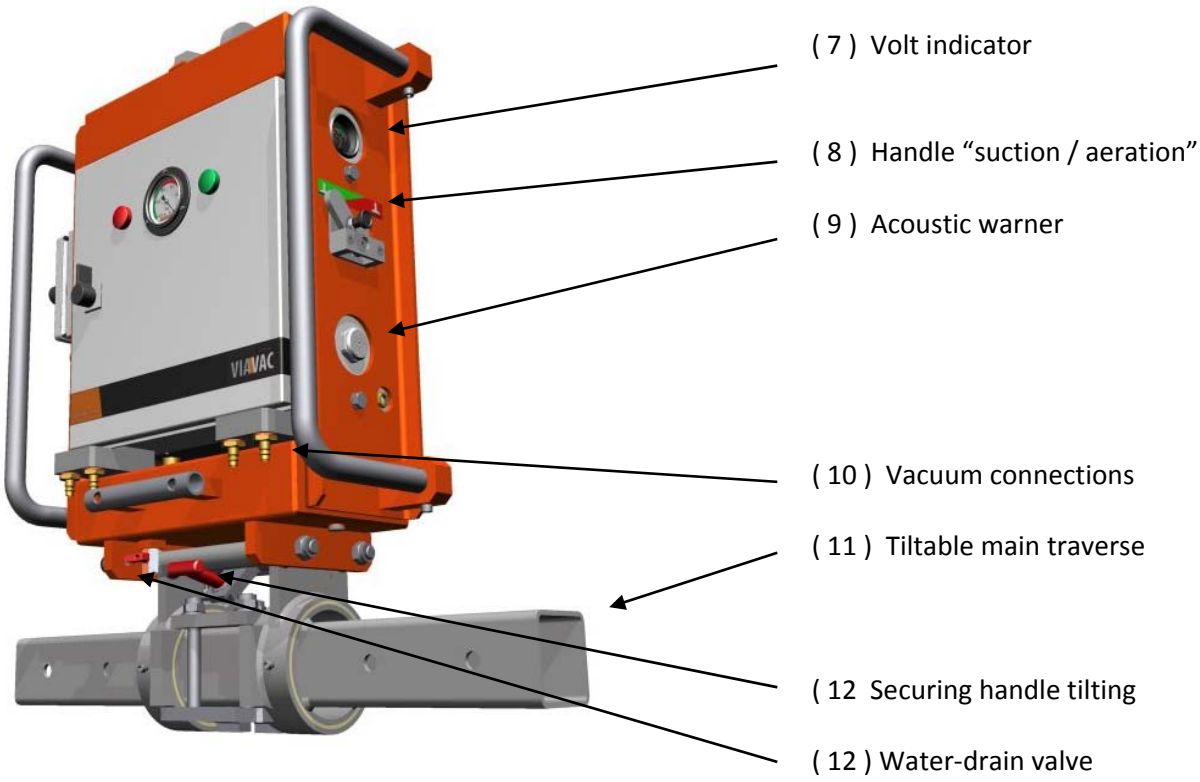


Lifting capacity	max. 1.000kg, but actual S.W.L depends of the total lifting capacity of the active suction pads required for the job specific configuration.
Own weight	c.a. 100kg
Load	Steel faced composite roof and wall panels. It may also be possible to lift other non porous materials but it is recommended that test lifts are performed. The suction area may be flat as slightly structured. The suction pad seal can compensate (when not too rough) unevenness's up to 5mm.
Capabilities	- 90° tilting from horizontal to vertical with locking facility in vertical position.
Operation elevation	Max. 1.200 meter above sea level.
Operating Temperatures	0°C to +40°C -10°C to 0°C with special precautions.
Service life	At least 20.000 cycles, when used as intended.
Outside use	This lifter can also be used outside, however not in area with explosive danger.
Rain and snow	This lifter may also be used in rain and snow conditions, however there should be taken care for a dry suction area. The reason for this is that moisture or ice strongly reduces the necessary friction between suction pad and load. This friction is essential to lift the load in vertical position of the suction pad.
Wind	Do not use this lifter at wind speeds above 11 meter/sec. The maximum wind speed will reduce as panels get longer. See wind speed tables per machine configuration. Page 8 up to 16.
Non rigid plates	This lifter is not suitable to lift non rigid single skin sheets. (plate can peal of from the suction pad causing to release the load.

Extra regulations according CE standard EN 13155
When this lifter is being used for the erection, renovation or demolishing of buildings or other building constructions, the use of a falling safety device is required.

B 3 Operation





1. Suspend device at the crane hook by the lifting eye (1).
2. Before every lift, check the condition of the rubber sealing profile of the suction pad, there may be no tears or damage to it.
3. Before every lift, check the black rubber back plate at the backside of the suction cups; these must be clean and dry.
4. Before every lift check that all locking pins are in place and secured.
5. Ensure that the control lever (8) "suction & aerating" is set to the back (read area)
   Start up the device by setting the main switch (3) on 1.
   -Now you will hear the vacuum pump running, it will stop 10 seconds after a vacuum level of -0.65 bar has been built up in the vacuum buffer tank.
   - The alarm is audible and the red lamp will light up as long as the vacuum level is still below -0.6-bar, above that the alarm will stop and the green lamp will light up instead of the red one.
6. Check on the volt meter (7) whether the battery has been sufficiently charged; the pointer must remain between the 11 and 13 volt while the vacuum pump is running.
7. Use the control lever (12) to set the suction pad in the right position.
   - Lever up: enables to rotate the main traverse with 90°.
8. Put the device with the suction pad on the load, ensure that the suction surface is dry and clean.
9. Set the control lever (8) at suction (green area).
10. Check on the vacuum meter (2) whether the required vacuum level of >-0.60 bar has been built up (pointer in the green area).
11. If used on the building site in the EU, lift the load a little and attach the fall safety straps as indicated.
12. The load can now be lifted further and, just before the load is set on its place, the falling safety strap should be removed, if applicable.
13. When the load has been put on its place and is secured, set the control lever (8) at aerating (red area).
14. The suction pad will release and then a new load can be taken up by putting the suction pad on it and putting the control lever (8) at “suction”.
15. After the last element has been placed, disconnect the device by setting the main switch (3) on 0.

Before any lift, the user must check the following:

I. Check the rubber sealing profile of the suction pad for damage and cracks and replace if necessary.
II Check rubber back plate of the suction pad to verify whether it is clean and oil-free and, if necessary, to clean it up.
III Whether the battery is sufficiently charged; The volt meter (8) must indicate between 11 and 13 Volt.
IV Functioning of the acoustic alarm (11) at a vacuum level below -0.60m bar.
This can be checked by briefly putting the control lever (8) in the position “suction” (green area) before the suction pad is placed on the load.

If the load has a protective film, it must first be removed before the suction pad is placed on the load.

During every lift the operator must constantly monitor the following:

a. Vacuum meter, during lifting the pointer must constantly remain in the green area.
b. Acoustic alarm signal; during the lift it may not be audible.

If the vacuum meter is in the red area and/or the acoustic alarm signal sounds, do not lift!

If the vacuum meter is in the read area and/or the acoustic alarm signal sounds, a lifted load must be put down as quickly as possible.

If the vacuum pump for some reason fails, from the moment the vacuum level decreases below the required level of> -0.60, the load will be held for a minimum of 5 minutes.

To work safely with the device, it is therefore necessary that:

- The operator must have good hearing and is not using hearing protection.
- During the lifting the operator must be within hearing and visibility distance of the device.
- The ambient sound does not amount to more than 70db.
- The operator of the device is constantly in contact with the operator of the lifting machine and agreements have been made about a clear communication.

Protective precautions at operation temperatures between the -10°C and 0°C.

- To prevent clogging of the filters, it has to be ensured that all the humidity has been removed from the device. This is achieved by letting the vacuum pump run approx. 15 minutes with the control level (9) in the position “suction” in a dry and heated compartment.
- To be assured of sufficient battery capacity, store the device at a temperature of 15°C or higher at night.
- For sufficient friction between suction pad and the load, it must be ensured for every lift that both the suction pad and the suction surface of the load is clean. All excessive water, snow and ice must therefor be removed.

The vacuum pump can run approx. 120 minutes constantly with a fully charged battery.

To ensure that it is possible to work a whole day with a battery load, the user must also keep an eye on the vacuum condition of the system during the operation:

This is done by checking that the vacuum pump stops 10 seconds after a vacuum level of 0.65 bar has been reached. Then it must take at least 30 seconds before it starts pumping again.
If the pump starts up more frequently, this indicates a leak and this causes the battery to discharge faster than expected and one cannot operate for a whole day.
Therefore it is advisable to first rectify this, before the work is continued.

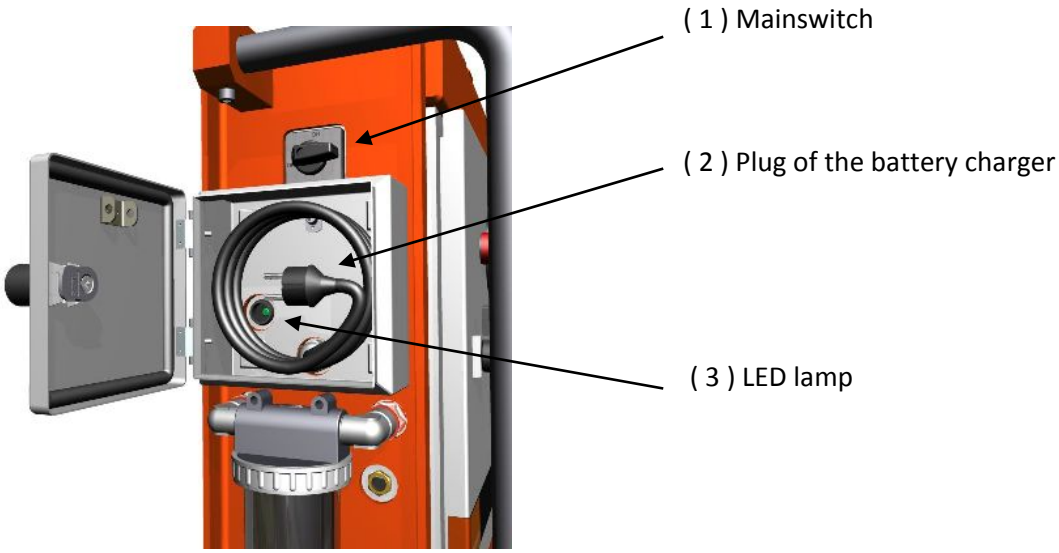
B 4 Storage

The device should be stored as follows:
Overnight at job site:
- keep the unit in a dry and above 0°C secure place.

Long time storage when out of use :
- In a dry place at temperatures between 15 and 25°C.
- Switched off, water drained, charged battery and suction pad shielded.

B 5 Battery

The battery can be charged by the battery charger, which is placed in the switchbox.



- Turn the main switch (1) off.
- Insert the plug of the charger (2) in the socket,
  the voltage of the mains should be between 110 ... 240V.
- The LED lamp changes during the load cycle from red (empty battery) to yellow (almost fully charged battery) to green (fully charged battery).

In approx. 6 hours loading time an empty battery (13) is again fully charged (green LED lamp is lighted).
A full battery load is sufficient for placing a minimum of 120 elements (approx. 1 full day of operation).

When the green LED lamp is lighted, the battery charger will automatically switch to maintenance loading. The connector can therefore remain in the electric socket without any danger of overloading the battery.

In case of a charged battery the volt meter on the cabinet indicates between 12 ... 14 Volt, when the vacuum pump runs, it will fall back with approx. 1V.
If the meter falls back significantly to back with 2 or more Volt during additional pumping, this means that the battery is discharged.
In case of a discharged battery the vacuum pump will also run slower, due to which it will not achieve the set switch off vacuum level and the vacuum pump will run constantly.

If the voltage of the battery decreases below the 11V, the electronic vacuum switch will also turn off, because of this, the vacuum pump will run constantly, the red lamp will light up and the acoustic alarm signal will sound.

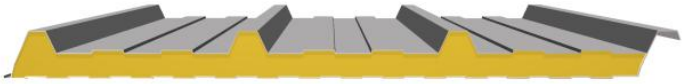
The battery will last approx. 3 to 5 years, because the capacity will decrease after time, we advise to renew the battery every 3 years as a precaution.

It improves the life time of the battery when it is stored in a charged state.
We recommend that, even if you don't need the device the next day, to charge immediately after use.
Interim charging the battery has no negative impact on it's capacity (no memory effect).

B 6 Transport- and manipulation possibilities

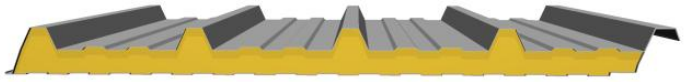
TYPE SANDWICH ROOF PANELS

type **RA** (1)



0,5 .. 0.7mm Steel / aluminium
PUR / EPS
0,5 .. 0.7mm Staal / aluminium

type **RB** (2)



0,5 .. 0.7mm Steel / aluminium
PUR / EPS
Foil

type **RB** (3)

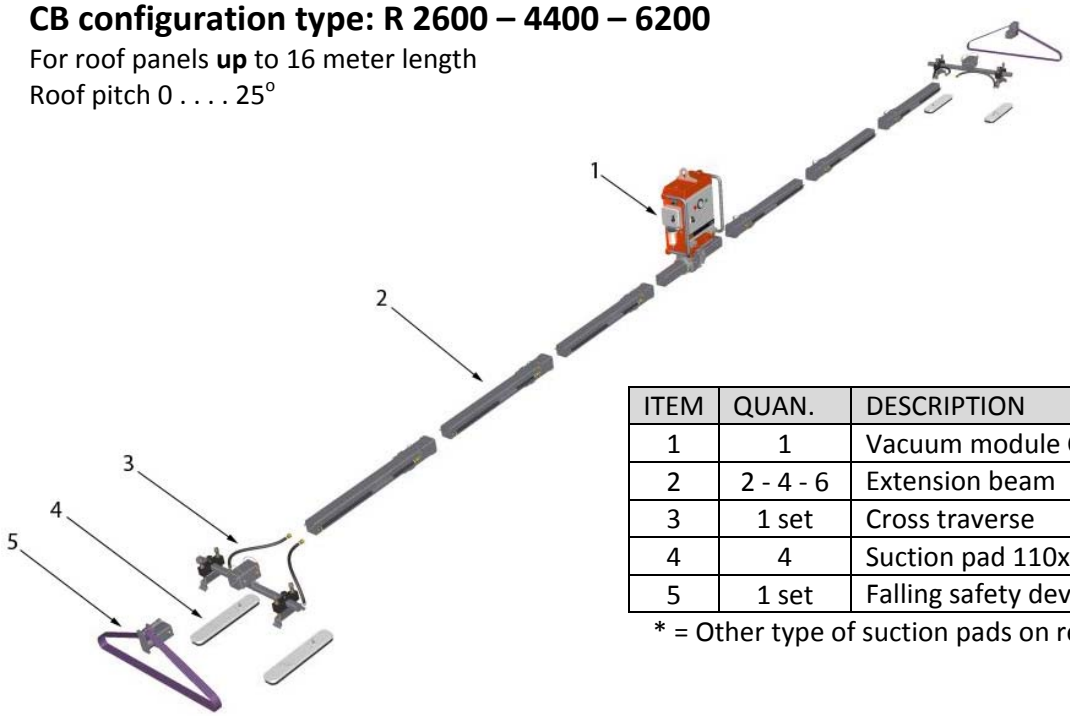
0,5 .. 0.7mm Steel / aluminium
Mineral wool
0,5 .. 0.7mm Steel / aluminium

type **RB** (4)

0,5 .. 0.7mm Steel / aluminium
PUR / EPS
0,5 .. 0.7mm Steel / aluminium

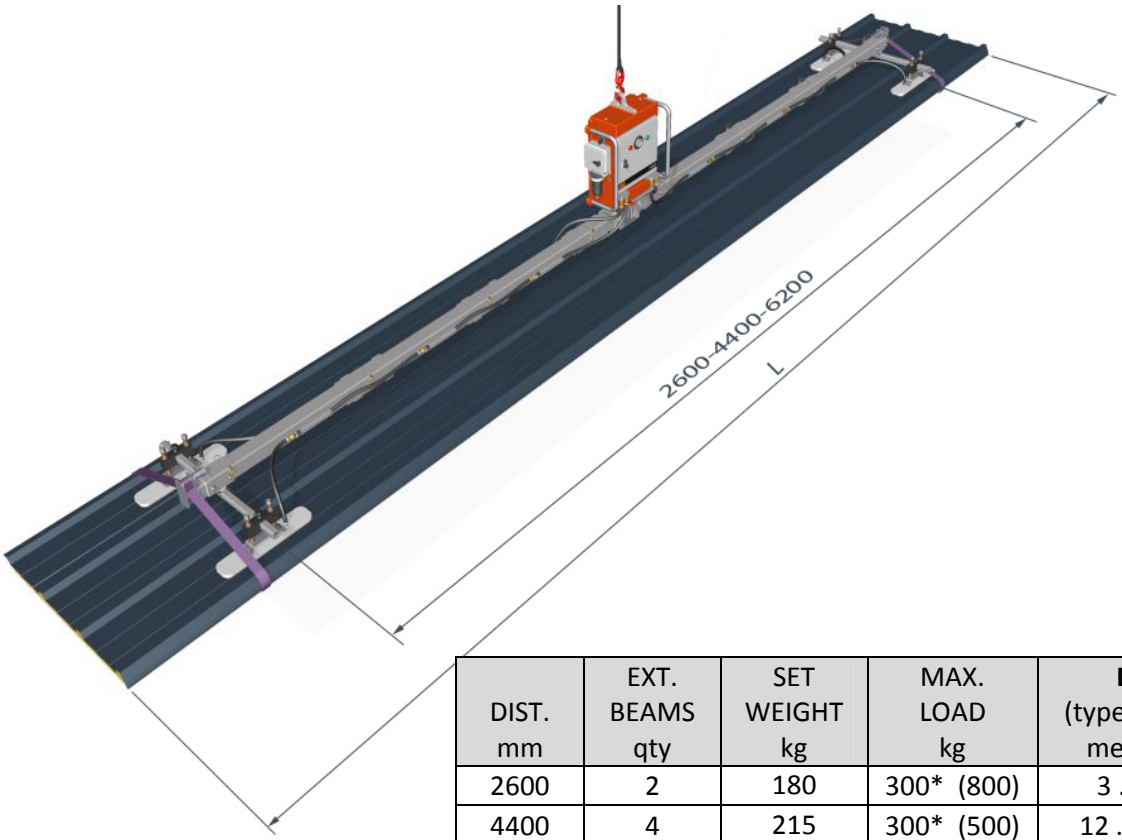
CB configuration type: R 2600 – 4400 – 6200

For roof panels **up** to 16 meter length
Roof pitch 0 . . . . 25°



ITEM	QUAN.	DESCRIPTION	ART. NR
1	1	Vacuum module CB4	408500
2	2 - 4 - 6	Extension beam	408003
3	1 set	Cross traverse	408501
4	4	Suction pad 110x530, 75kg	402502*
5	1 set	Falling safety device	402007

* = Other type of suction pads on request.



DIST. mm	EXT. BEAMS qty	SET WEIGHT kg	MAX. LOAD kg	**L** (type RA) meter	**L** (type RB) meter
2600	2	180	300* (800)	3 …12	3 … 8
4400	4	215	300* (500)	12 …14	8 …10
6200	6	250	300* (300)	14 … 16	10 …12

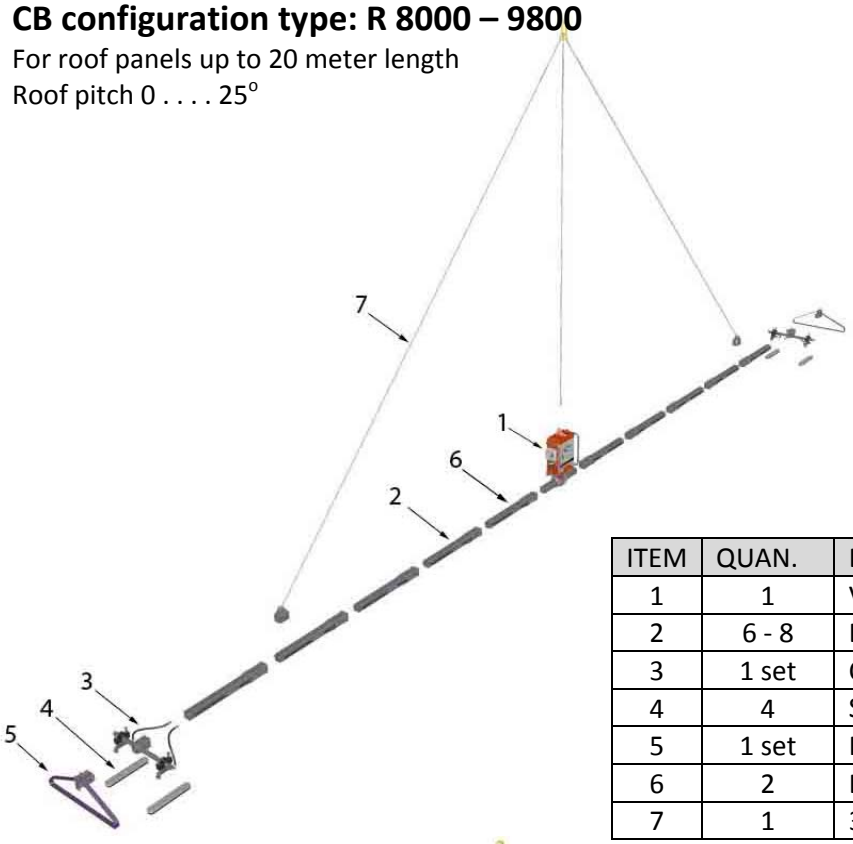
. . . *= load with 4x75kg pads, (. . .) = max. possible load on traverse.
Type RA = roof panels with min.0,5mm steel skin & EPS/PUR/PIR core.
Type RB = roof panels with min. 0,5mm steel skin & mineral wool core.
Max. wind speeds L = up to 12 meter 11m/s, 12 up to 16 meter 9m/s.

REMARKS

- Panels with a length up to 20 meter are possible with configuration type RC 8000 - 9800.
- Panels with a roof pitch 25^0 up to 45^0 are possible with configuration RT 2600 - 4400 - 6200

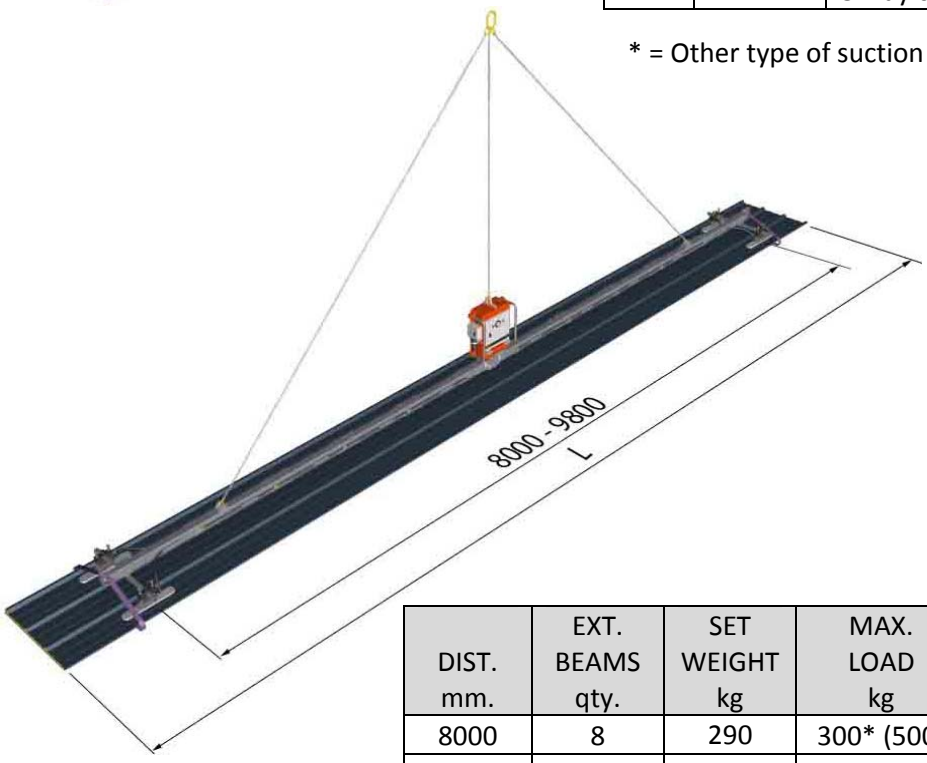
CB configuration type: R 8000 – 9800

For roof panels up to 20 meter length
Roof pitch 0 . . . . 25°



ITEM	QUAN.	DESCRIPTION	ART. NR
1	1	Vacuum module CB4	408500
2	6 - 8	Extension beam	408003
3	1 set	Cross traverse	408501
4	4	Suction pad 110x530, 75kg	402502*
5	1 set	Falling safety device	402007
6	2	Bended extension beam	408004
7	1	3 way chain suspension	408050

* = Other type of suction pads on request.



DIST. mm.	EXT. BEAMS qty.	SET WEIGHT kg	MAX. LOAD kg	**L** (type RA) meter	**L** (type RB) meter
8000	8	290	300* (500)	16 … 18	Not advisable
9800	10	325	300* (500)	18 … 20	Not advisable

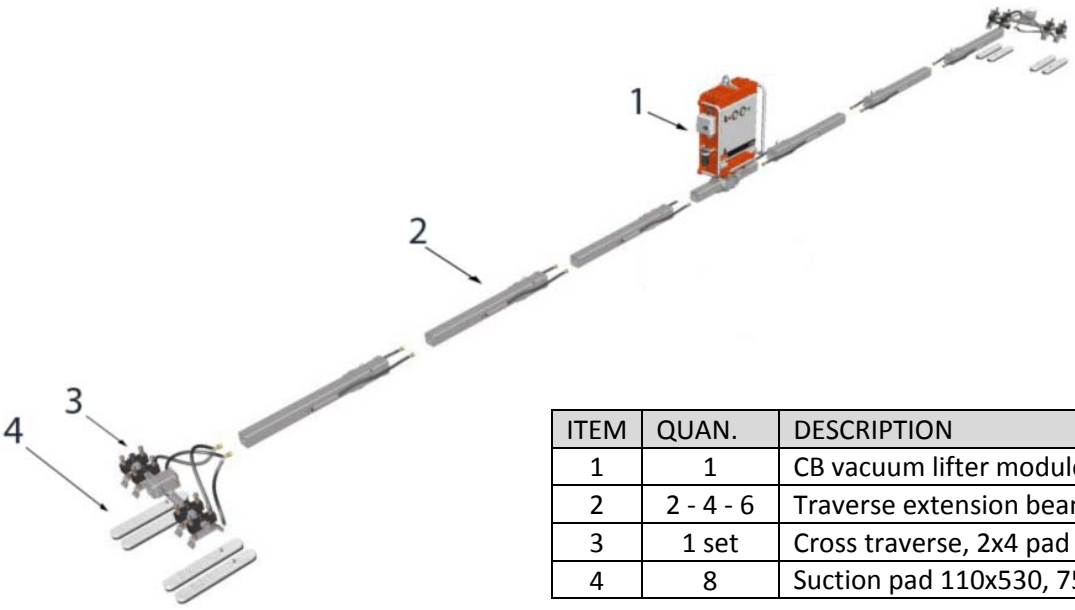
. . . *= load with 4x75kg pads, (. . .) = max. possible load on traverse.
Type RA = roof panels with min.0,5mm steel skin & PUR/PIR core.
Type RB = roof panels with min. 0,5mm steel skin & mineral wool core.
Max. wind speeds L = 16 up to 20 meter 8m/s.

REMARKS

- Panels with shorter lengths are possible with configuration type R 2600 - 4400 - 6200.
- Panels with a roof pitch 25^0 up to 45^0 are possible with configuration RT 2600 - 4400 – 6200.

CB configuration type: R 2600 - 4400 – 6200 (2x4)

For 2m wide roof panels up to 16 meter length
Roof pitch 0 . . . . 25°



ITEM	QUAN.	DESCRIPTION	ART. NR
1	1	CB vacuum lifter module (m4)	408500
2	2 - 4 - 6	Traverse extension beam	408003
3	1 set	Cross traverse, 2x4 pad susp.	409501
4	8	Suction pad 110x530, 75kg	402502*

* = Other type of suction pads on request.

DIST. mm	EXT. BEAMS qty	SET WEIGHT kg	MAX. LOAD kg	**L** (type A) meter	**L** (type B) meter
2600	2	210	600* (800)	3 …12	3 … 8
4400	4	245	500* (500)	12 …14	8 …10
6200	6	280	300* (300)	14 … 16	10 …12

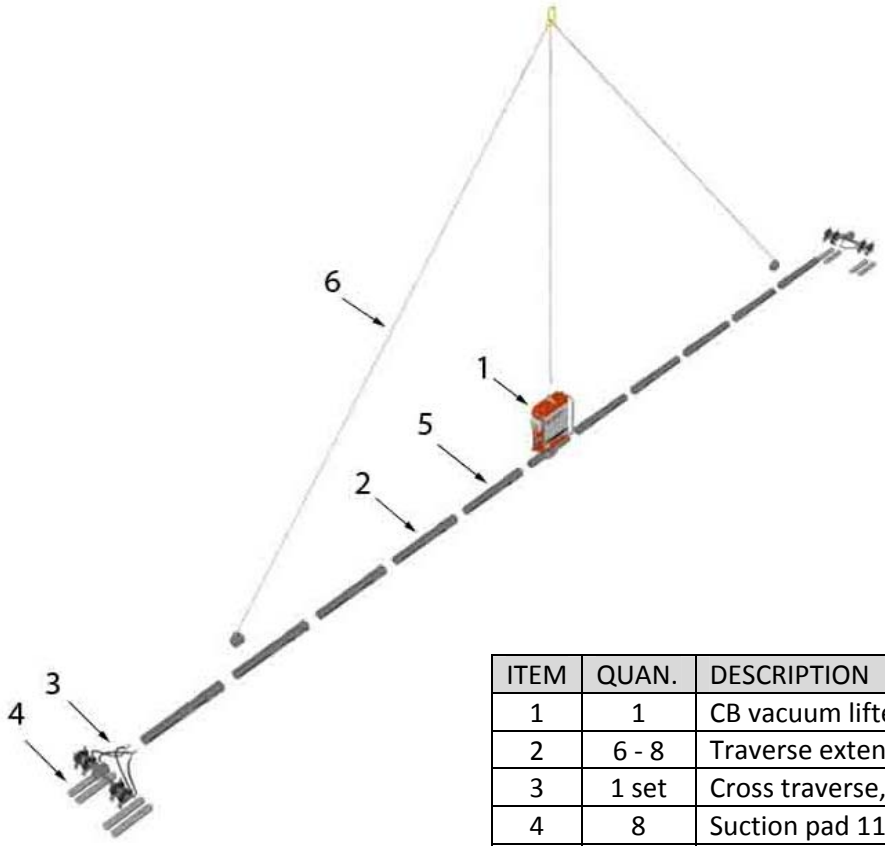
. . . *= load with 8x75kg pads, (. . .) = max. possible load on traverse.
Type A = panels with min.0,5mm steel skin & EPS/PUR/PIR core.
Type B = panels with min. 0,5mm steel skin & mineral wool core.
Max. wind speeds L = up to 12 meter 10m/s, 12 up to 16 meter 8m/s.

REMARKS

- Panels with a length up to 20 meter are possible with configuration type RC 8000 – 9800 (2x4).
- Panels with a roof pitch 25^0 up to 45^0 are possible with configuration RT 2600 - 4400 – 6200 (2x4).

CB configuration type: RC 8000 / 9800 (2x4)

For 2 meter wide roof panels up to 18 meter length
Roof pitch 0 . . . . 25°



ITEM	QUAN.	DESCRIPTION	ART. NR
1	1	CB vacuum lifter module (m4)	408500
2	6 - 8	Traverse extension beam	408003
3	1 set	Cross traverse, 2x4 pad. susp.	409501
4	8	Suction pad 110x530, 75kg	402502*
5	2	Bended traverse extension beam	408004
6	1	3 way chain suspension (m4-k8)	408050

* = Other type of suction pads on request.

DIST. mm.	EXT. BEAMS qty.	SET WEIGHT kg	MAX. LOAD kg	**L** (type A) meter	**L** (type B) meter
8000	8	360	600* (600)	12 … 16	Not advisable
9800	10	395	600* (600)	16 … 18	Not advisable

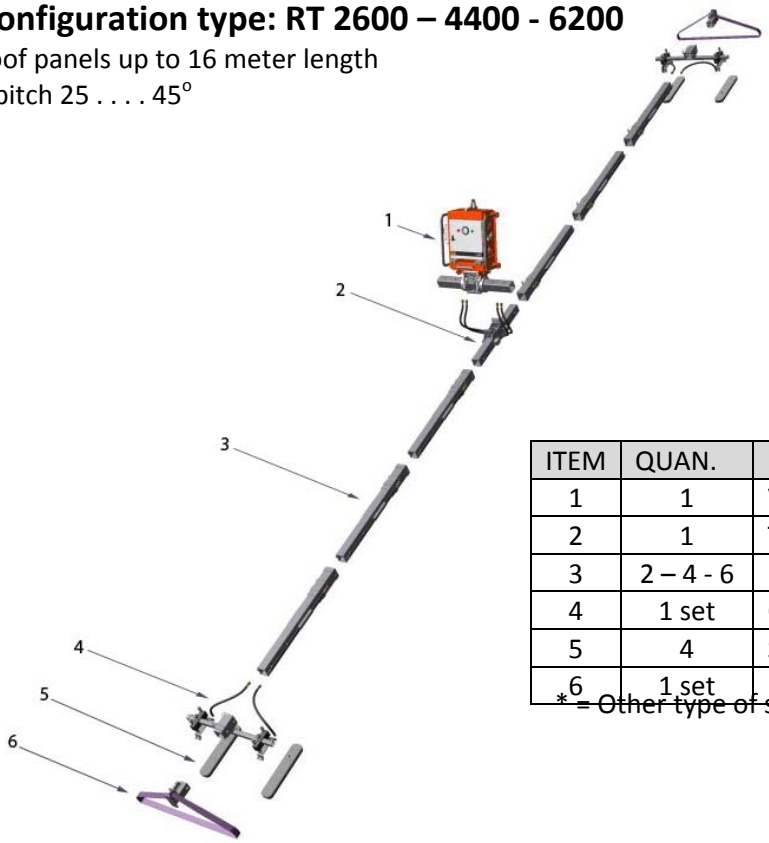
. . . *= load with 8x75kg pads, (. . .) = max. possible load on traverse.
Type A = panels with min.0,5mm steel skin & PUR/PIR core.
Type B = panels with min. 0,5mm steel skin & mineral wool core.
Max. wind speeds L = 12 up to 18 meter 8m/s.

REMARKS

- Panels with shorter lengths are possible with configuration type R 2600 - 4400 - 6200.
- Panels with a roof pitch 25^0 up to 45^0 are possible with configuration RT 2600 - 4400 – 6200.

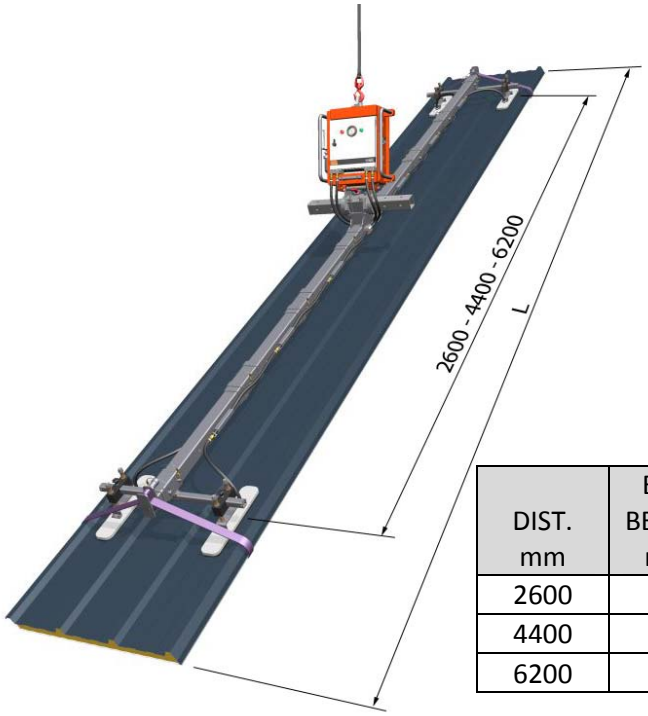
CB configuration type: RT 2600 – 4400 - 6200

For roof panels up to 16 meter length
Roof pitch 25 . . . . 45°



ITEM	QUAN.	DESCRIPTION	ART. NR
1	1	Vacuum module CB4	408500
2	1	Tilting beam	408006
3	2 – 4 - 6	Extension beam	408003
4	1 set	Cross traverse	408501
5	4	Suction pad 110x530, 75kg	402502*
6	1 set	Falling safety device	402007

* = Other type of suction pads on request.



DIST. mm	EXT. BEAMS mm	SET WEIGHT kg	MAX. LOAD* kg	**L** (type RA) meter	**L** (type RB) meter
2600	2	205	300* (800)	3 …12	3 … 8
4400	4	240	300* (500)	12 …14	8 …10
6200	6	275	300* (300)	14 … 16	10 …12

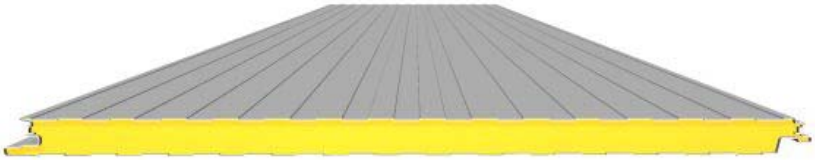
. . . *= load with 4x75kg pads, (. . .) = max. possible load on traverse.
Type RA = roof panels with min.0,5mm steel skin & PUR/PIR core.
Type RB = roof panels with min. 0,5mm steel skin & mineral wool core
Max. wind speeds L = up to 12 meter 11m/s, 12 up to 16 meter 9m/s.

REMARKS

- Panels with a roof pitch 0^0 up to 25^0 are possible with configuration R 2600 - 4400 - 6200
- Panels with a length up to 20 meter are possible with configuration type RC 8000 - 9800.

TYPE SANDWICH WALL PANELS

type **WA** (1)



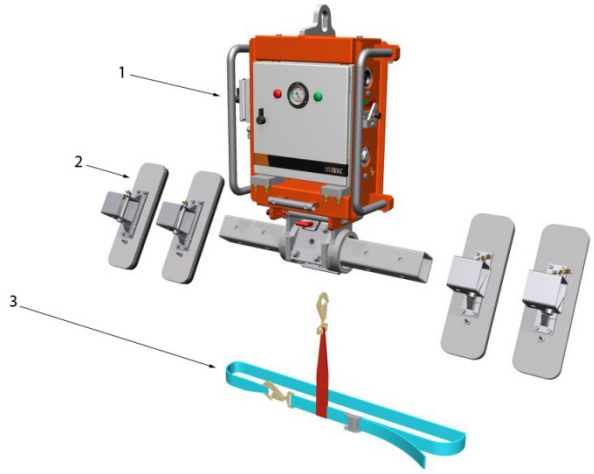
0,5 .. 0.7mm Steel / aluminium
PUR / EPS
0,5 .. 0.7mm Steel / aluminium

type **WB** (2)

0,5 .. 0.7mm Steel / aluminium
Mineral wool
0,5 .. 0.7mm Steel / aluminium

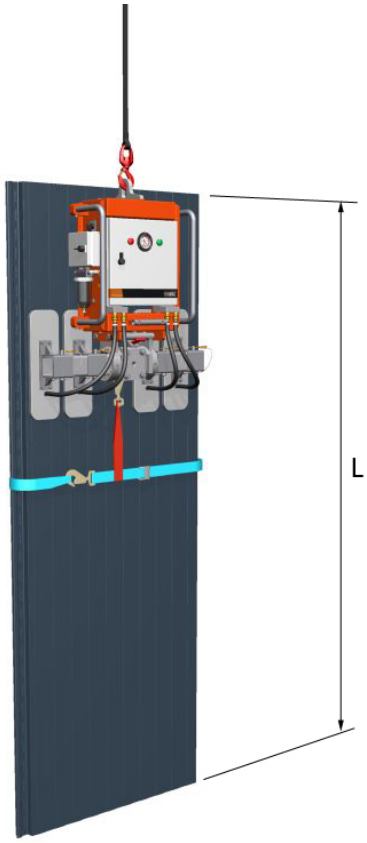
CB configuration type: WV

For vertical wall panels **up** to 12 meter length



ITEM	QUAN.	DESCRIPTION	ART. NR
1	1	Vacuum unit CB4	408500
2	2 - 4	Suction pad with suspension	408033*
3	1	Falling safety strap with hook	17004

* = Other type of suction pads on request.



DIST. mm	SUCTION PADS qty	SET WEIGHT kg	MAX. LOAD kg	**L** (type WA) meter	**L** (type WB) meter
-	1 set	115	200* (800)	3 …12	3 … 8
-	2 set	130	400* (800)	3 …12	3 … 8

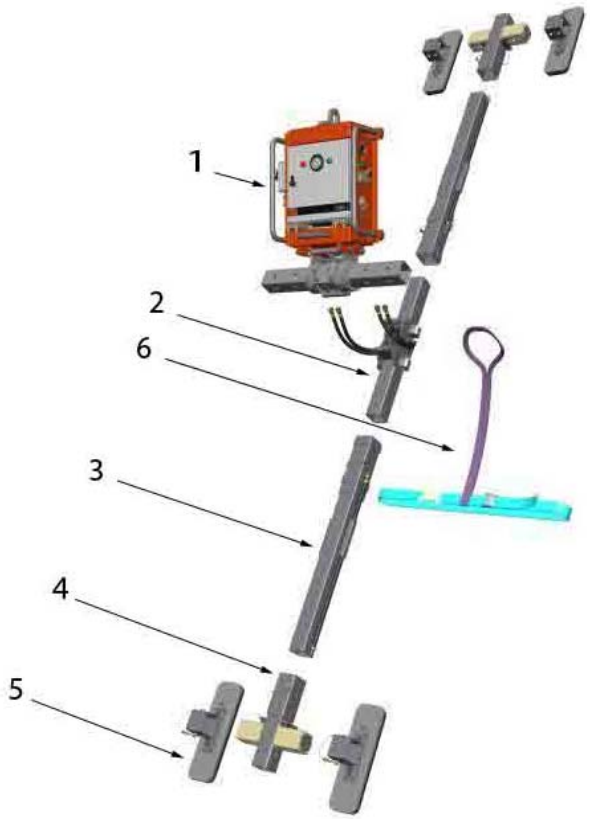
. . . *= load with 4x100kg pads, (. . .) = max. possible load on traverse.
Type WA = wall panels with min.0,5mm skin & PUR/PIR core.
Type WB = wall panels with min. 0,5mm steel skin & mineral wool core
Max. wind speeds L = up to 12 meter 11m/s.

REMARKS

* Panels with a length up to 16 meter are possible with CB configuration type WVK 2900 - 4700.

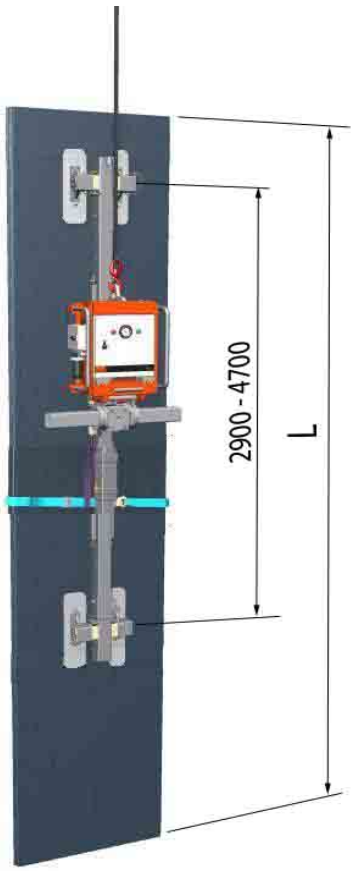
CB configuration type: WVK 2900 - 4700

For vertical wall panels **up** to 17 meter length



ITEM	AANTAL	DESCRIPTION	ART. NR
1	1	Vacuum unit CB4	408500
2	1	Tilting beam	408006
3	2 - 4	Extension beam	408003
4	1 set	Traverse cross	408030
5	2 set	Suction pad with suspension	408033*
6	1 set	Falling safety with sling	17003

* = Other type of suction pads on request.



DIST. mm	EXT. BEAMS qty.	SET WEIGHT kg	MAX. LOAD kg	**L** (type WA) meter	**L** (type WB) meter
2900	2	225	400* (800)	13 …15	9 … 11
4700	4	260	400* (500)	15 …17	11 … 13

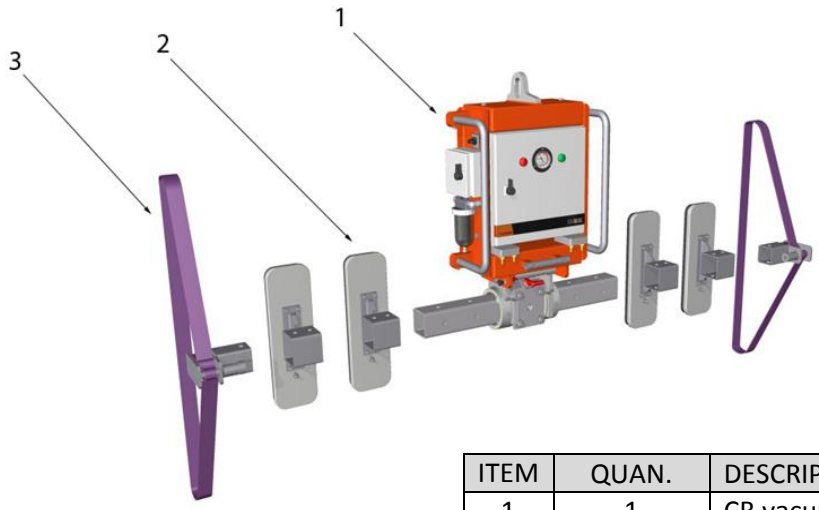
. . . *= load with 4x100kg pads, (. . .) = max. possible load on traverse.
Type WA = wall panels with min.0,5mm skin & PUR/PIR core.
Type WB = wall panels with min. 0,5mm steel skin & mineral wool core
Max. wind speeds L = up to 12 meter 11m/s, 12 up to 16 meter 9m/s.

REMARKS

* Panels with a length up to 12 meter are possible with CB configuration type WV.

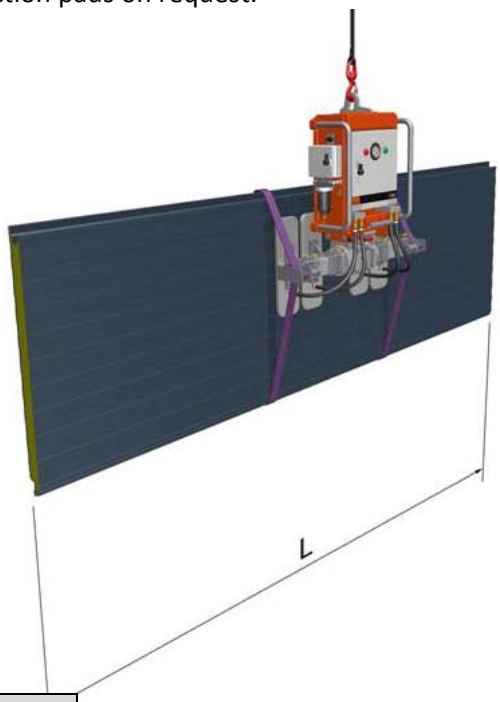
CB configuration type: WH

For horizontal wall panels **up** to 12 meter length



ITEM	QUAN.	DESCRIPTION	ART. NR
1	1	CB vacuum lifting module (m4)	408500
2	1 – 2 sets	Suction pad with suspension	408033*
3	1 set	Falling safety device	408007

* = Other type of suction pads on request.



DIST. mm	SUCTION PADS qty	SET WEIGHT kg	MAX. LOAD kg	**L** (type WA) meter	**L** (type WB) meter
-	1 set	125	200* (800)	3 …12	3 … 8
-	2 set	140	400* (800)	3 …12	3 … 8

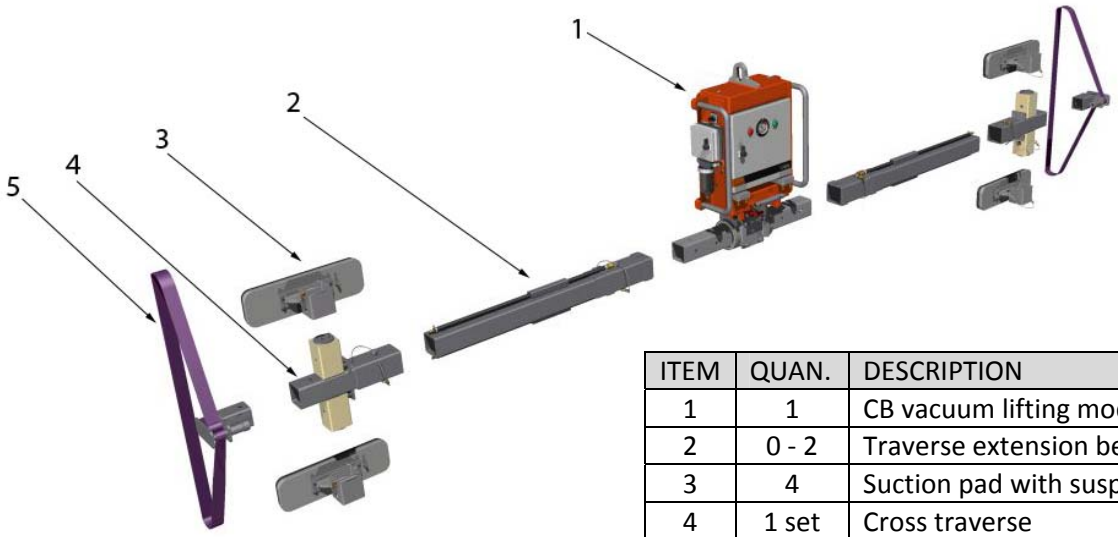
. . . *= load with 4x100kg pads, (. . .) = max. possible load on traverse.
Type WA = wall panels with min.0,5mm skin & PUR/PIR core.
Type WB = wall panels with min. 0,5mm steel skin & mineral wool core
Max. wind speeds L = up to 12 meter 11m/s.

REMARKS

* Panels with a length up to 16 meter are possible with configuration type WH 1100 - 2900.

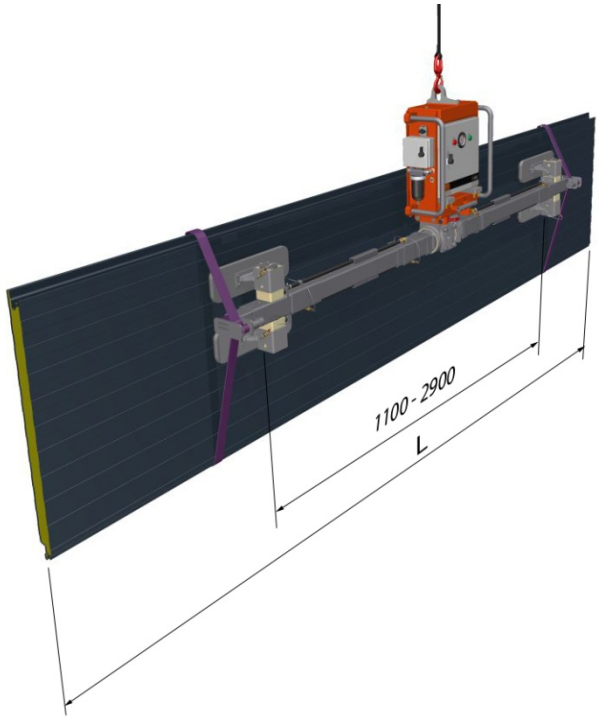
CB configuration type: WH 1100 - 2900

For horizontal wall panels **up** to 15 meter length



ITEM	QUAN.	DESCRIPTION	ART. NR
1	1	CB vacuum lifting module (m4)	408500
2	0 - 2	Traverse extension beam	408003
3	4	Suction pad with suspension	408033*
4	1 set	Cross traverse	408010
5	1 set	Falling safety device	408007

* = Other type of suction pads on request.



DIST. mm	EXT. BEAMS qty.	SET WEIGHT kg	MAX. LOAD kg	**L** (type WA) meter	**L** (type WB) meter
1100	0	160	400* (800)	3 …13	3 … 9
2900	2	195	400* (800)	13 …15	9 … 11

. . . *= load with 4x100kg pads, (. . .) = max. possible load on traverse.
Type WA = wall panels with min.0,5mm steel skin & PUR/PIR core.
Type WB = wall panels with min. 0,5mm steel skin & mineral wool core
Max. wind speeds L = up to 12 meter 11m/s, 12 up to 16 meter 9m/s.

REMARKS

* Panels with a length up to 12 meter are possible with configuration type WH.

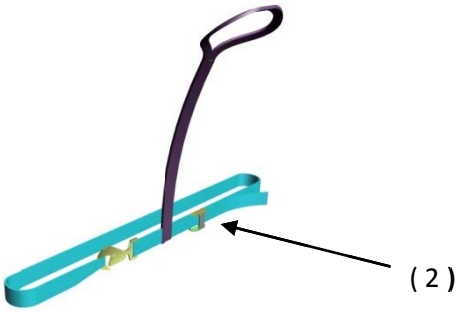
B 7 Options

B 7.1 Falling safety devices

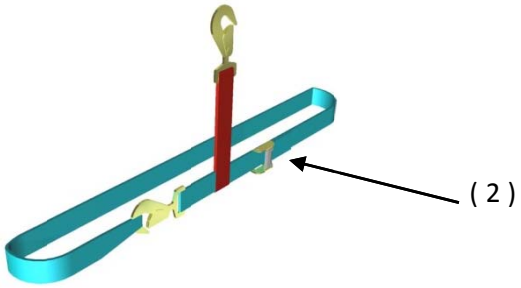
According CE regulation EN 13155 it is in all countries of the European union when a vacuum lifter is used at building site, a secondary safety system is obliged.
This can be realized in the following way's:
- One (single) vacuum circuit and the use of an falling safety device
- Two (dual) independent vacuum circuits.

This device is executed with 1 vacuum circuit and the use of an extra falling safety device is therefore obliged.

CB falling safety device for vertical wall panels

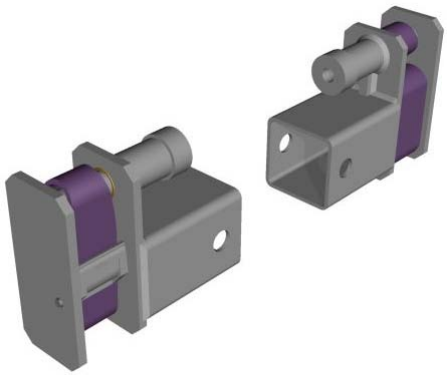


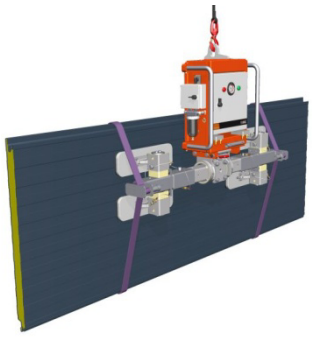
ITEM	QUAN.	DESCRIPTION	WEIGHT kg	ART. NR
1	1	Falling safety strap with sling	-	17003



ITEM	QUAN.	DESCRIPTION	WEIGHT kg	ART. NR
1	1	Falling safety strap with hook	-	17004

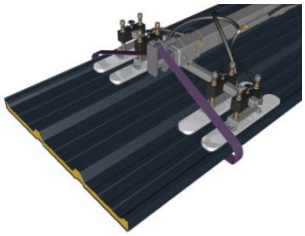
CB falling safety device for horizontal wall and roof panels



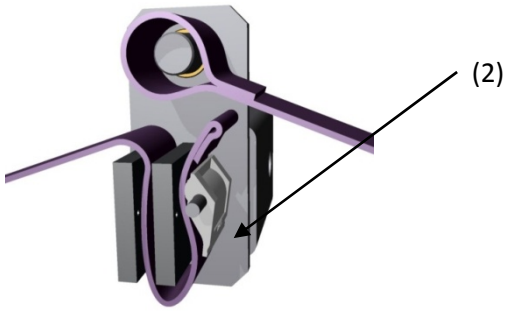


HORIZONTAL WALL PANELS

ITEM	QUAN.	DESCRIPTION	WEIGHT kg	ART. NR
1	1 set	Falling safety device	5	408007



ROOF PANELS



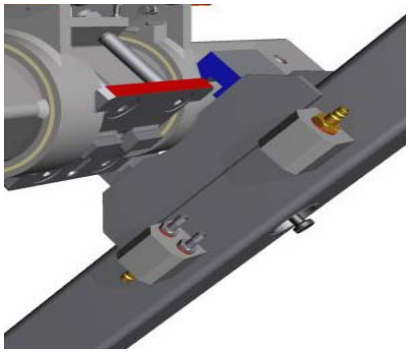
The falling safety devices are executed by means of lifting straps with hooks, which must be hooked to the device. During use the following must take place.

1 The correct falling safety device is hooked to the therefore intended fixing points on the device (1).
2 Lift the element with the vacuum lifter approx. 0,5 meter free from the ground.
3 Consequently the straps are at both ends put around the element as indicated above.
4 Through the clamp buckle (2) the strap is pulled tight around the element. (no clearance).
5 With the lifting device the whole unit is lifted to the designated place.
6 Just before the element is put in its place, the falling safety device is removed after which the element is placed on its spot.

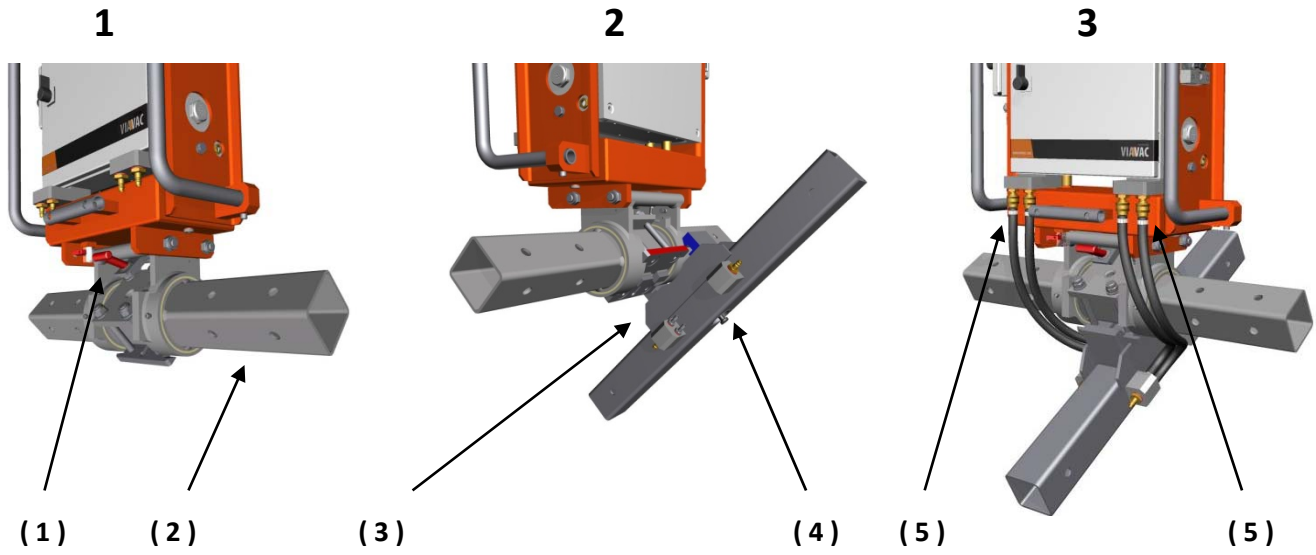
1. Protect from sharp edges of the elements to be lifted at location of the straps.
2. If there are cracks or tears in the lifting straps, do not use them and replace them immediately.

B 7.2 CB tilting beam

The tilting beam is an accessory which makes it possible to install roof panels with an pith larger then 25° as well to install long vertical wall panels.



The tilting beam can be mounted without the use of tools.
It slides over the mounting plate en locks itself by an integrated spring loaded securing pin. Because of the weight tilting beam we advise to do this with 2 persons.

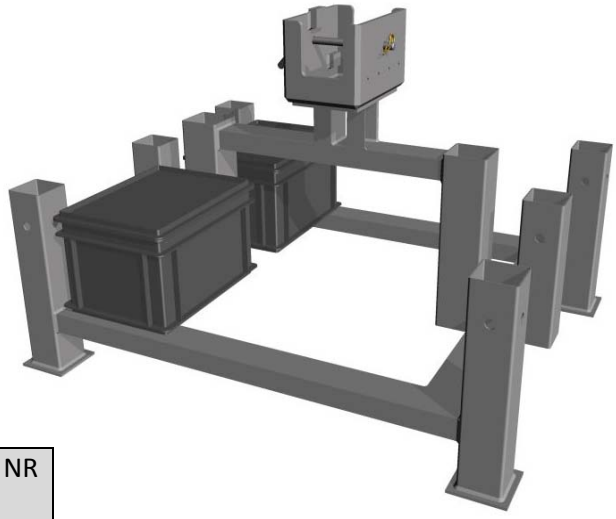


1. To be able to mount the tilting beam the traverse under the device has to be tilted approx 45° Therefore it has to be unlocked by lifting the securing handle (1) as indicated. Consequently the traverse can be rotated 45° .
2. The tilting beam (4) has to be slided over the entire length of the mounting plate, to achieve this you need to pull the securing pin simultaneously. When put in place the securing pin will lock the position of the tilting beam
3. Connect the vacuum hoses to the device.

Subsequently the extension beams and suction pads sets can be fitted along the tilting beam.

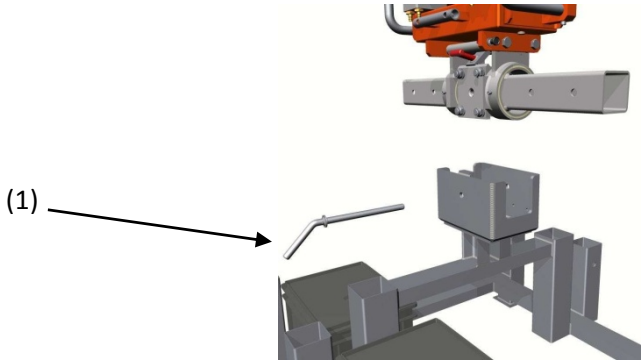
B 7.3 CB transportframe

The transport frame is an ideal to store the device compact together with it's accessories and to be able to transport it as a compact unit with a forklift or crane.



ITEM	QUAN.	DESCRIPTION	WEIGHT kg	ART. NR
1	1 set	Transport frame	100	408012

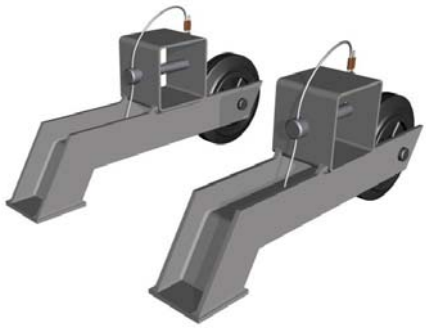
The vacuum unit has to be put with the tilting mechanism in the foundation bin, when the device can be attached to the frame by the securing pin (1).



Subsequently all extension beams can be placed on the various foundation spots.

B 7.5 CB transport wheelset

The transport wheels are usefull to transport the unit without the use of a forklift or crane



ITEM	QUAN.	DESCRIPTION	WEIGHT kg	ART. NR
1	1 set	Transport wheels	12	408011

B 8 Safety precautions

Recommendations

8.1 **Only** use this lifter when you have read and understood the operators section of this manual.

8.2 **Only** use this lifter when the main switch (10) for the power supply is turned “on” before lifting. (danger of lifting with the vacuum which is still in the vacuum tank.

8.3 **Always** check this lifter before use for its conditioning and correct functioning.

8.4 **Always** charge the battery before and after use.

8.5 **Always** take care that the contact area of the load is clean and clear of excessive water before placing the suction pad on the surface.

8.6 **Always** position the suction pad correctly on the load and do not drag the pads across the panel surface.

8.7 **Always** put down the load immediately when the alarm sounds.

8.8 **Always** the operator should be within sight- and hearing distance of the lifter and the operator of the lifting machine.

8.9 **Always** there should be an agreement about the communication between the operator of the vacuum lifter and the lifting machine.

8.10 **Aways** wear protective equipment that is appropriate for the material being handled. Follow trade association guidelines.

8.11 **Always** keep the device periodically checked and maintained by an expert

8.12 **Always** has the vacuum lifter to be examined within the period as prescribed by the safety regulations which are valid for the country where the vacuum lifter is in use.

8.13 **Always** check the locking pins if they are in position and secured.

Prohibitions

8.15 **Never** operate a lifter when it is damaged, malfunctioning, or missing parts.

8.16 **Never** operate a lifter as the seal of the suction pad is damaged or cracked.

8.17 **Never** operate a lifter if the Load capacity or any warning appears to be missing or obscured.

8.18 **Never** exceed the Load Capacity which is applicable for the configuration in use.

8.19 **Never** attempt to lift a cracked or broken load with this lifter.

8.20 **Never** lift a load which is buckled damaged or disorted.

8.21 **Never** lift a load when any vacuum indicator Showa inadequate vacuum.

8.22 **Never** lift a load when the alarm sounds.

8.23 **Never** lift a load higher than necessary.

8.24 **Never** leave suspended loads unattended.

8.25 **Never** lift a load over people

8.26 **Never** store the lifter standing on the suction pad.

8.27 **Never** lift a load at wind speeds exceeding the recommended limits see configurations page 8 till 16.

8.28 **Never** lift a load when there is a chance for wind gusts.

8.29 **Never** release the load when the lifting sling or chain is not vertically above the vacuum lifter.
(danger of swinging of the lifter).

8.30 **Never** use the lifter when it's examined period has been exceeded.

8.31 **Never** use the lifter when the operator has a hearing loss or wears ear muffs.

8.32 **Never** use the device where the ambient noise exceeds the 70dB, if ambient noise levels exeed 70db, we advice buzzers with a higher sound level as the Beacon Flashtone Multi-Tone Sounder.

8.33 **Never** use solvents, petrol or other chemicals to clean the rubber parts of the suction pad.

C 12 Erradata

Date	Rev.	Description	Sect.	Name
01-01-2010	-	Completely new written	-	AdG
20-02-2010	Added	If the load has a protective film, it must first be removed before the suction pad is placed on the load.	B3	AdG
01-07-2010	Altered	8-27 Wind speeds	C10	AdG
	Added	8-28 Wind bursts		
01-12-2011	Altered	Maximum lifting capacity	B2	
	Altered	Load specification	B2	
	Added	Locking pins	B4	
	Added	Wind Speeds	B8..15	
	Added	Special buzzers when ambient sound exceeds 70db	B22	AdG
01-01-2012	Added	Configuration added R 2600 – 2400 – 6200 added	B6	AdG