Increase your profitability and reduce the risk of workplace accidents by using practical Australian-made vacuum-lifting technology.

A special independent report prepared for
Stephen Piacun and customers of

BLUE WATER ENGINEERING
www.vaclift.net.au

By

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1. How Materials Handling Decisions Are Made

Materials handling is a necessary activity in many, many businesses for example manufacturing, construction, shipbuilding, transport, warehousing and logistics and others. Business owners and managers want to satisfy four key business criteria when they purchase and use technology to help the materials handling – these criteria are:

- ***Ease and effectiveness in operation*** to handle the particular materials handling geometry and the types of materials to be moved
- ***Efficiency in the lifting operations*** to ensure that the handling and transport is performed with the minimum number of people and in the minimum time
- ***To enhance Safety*** and reduce the risk of injury in the handling of materials
- ***The ease for maintenance*** to be carried out to ensure long life and continuing safe use of the lifting equipment.

Owners and managers decide to purchase materials handling technology based on these criteria – how much will it improve operations, how will it improve safety and how easy will it be to maintain?

To consider these issues for the purchase of any materials handling equipment, let's start by looking at how the VacLift product developed.

2. Abrasive Jet Machining Service's Problem

Australian company Abrasive Jet Machining (AJM) had a problem. Their water jet cutting equipment was state of the art and was in high demand by the company's customers because of the accuracy of the cutting and the incredible surface finish left on the materials being cut.

Their problem was nothing to do with cutting equipment, but in getting the large plates, sheets and blocks of steel, stone, ceramic, aluminum and plastic to and from the water cutting machines and on and off the cutting table. These plates can be extremely heavy and they required the coordination of a number of the staff to be in the right place at the right time to move the plates into position and then lift them, with the help of a jib crane, into position on the cutting tables.

Needless to say this was a big bottleneck in their total business process. It constrained the throughput of their factory and limited both their sales growth and their profits, as well as causing a lot of frustration amongst their factory staff. In addition, the owners were very concerned about the safety of their people handling these heavy plates and the potential for lost-time accidents to occur during these transport and lifting phases.

In other words, the logistics associated with handling these plates in the factory was a significant weakness in their business, so the owners decided the time had come to do something about it.

This issue is not just one for the water jet cutting industry. It's a problem felt by all companies that have to move and process heavy plates or packs of materials in their factories and warehouses. It's an issue for owners and managers who are concerned for the safety and general fitness of their people. It's an issue that, if not properly managed, can result in heavy fines of several hundreds of thousands of dollars should bad accidents occur.

3. The Solution for Abrasive Jet Machining Services

AJM's owners looked at a number of solutions to overcome this process bottleneck and the safety issues associated with lifting the plates onto the current tables.

The first move was to design some jigs to allow the materials to be swung up to the cutting table more easily. The factory staff was very pleased with this improvement but it still took a number of them to lift and guide the plates onto the water cutting machines.

So the next step was to purchase a small vacuum lifting device from Europe that could be mounted to the jib crane hook. This reduced the time to select the material from the storage area, transport, lift and place the large materials onto the cutter by about 50% - from 30 minutes to 15 minutes..

But what was also important was the fact that the work could be done by just 2 people, allowing the other 3 that used to be involved to get on with their own work. And while this device provided a wonderful productivity boost to the factory, the design left something to be desired and the vacuum pads lasted only for 12 months. The device was clearly not designed for the rigor of a factory like AJM's and it eventually sat idle for 6 months while the company developed a new set of vacuum pads based on their own design.

Eventually the owners' frustration got the better of them and they decided to have a go at building their own vacuum lifter – after all, they were an Australian engineering business and the whole world knows about the practical innovativeness of Australians when there's a problem to be solved.

Enter the first VacLift prototype in 2008. The rest, as they say, is history. And the benefits of their innovation are now available to the Australian and international markets for lifting and transporting heavy plates or plates that need careful handling because of the potential for damage.

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4. Enter VacLift

VacLift's developer, Blue Water Engineering, has been involved in many leading edge products and the VacLift range of lifting equipment has been born from a need for high quality, Australian made, well serviced, vacuum lifting equipment.

With the development of their new forklift units, Blue Water Engineering now offers a complete solution to vacuum lifting needs – these could be by overhead crane, jib crane, yard crane or forklift.

Compressed air supply, battery and electric vacuum lifters are all available with fixed and tilting models on offer. Custom systems can also be tailored to suit your application.

Blue Water Engineering makes and designs the VacLift units in house to Australian Standards. This enables the company to offer full technical support and spare parts service. VacLift is the right choice for easy use, long service life and well supported vacuum lifting equipment.

5. Proof of the benefits of VacLift

Some of the early adopters of VacLift were Australian companies Australian Waterjet Cutting and Morgan Metal Corp. These businesses had requirements to transport and lift heavy plates of metal and stone within and around their factories.

Ross Glegg, of ***Australian Waterjet Cutting*** *in Brendale*, summarises VacLift as *"a very good concept – high quality and very handy – our operators love it because it's simple in design and very flexible in the factory. We now do with one operator what used to take at least two, and that's not to mention the reduced damage to the materials by using VacLift".*

Ross goes on to highlight other advantages they have found in using VacLift such as:

- *we no longer have to rely on a power supply to do our lifting and positioning*
- *it's exceptional for repeat jobs with lots of heavy weights or fragile materials*
- *we've been able to take on some jobs we simply could not have done before purchasing the VacLift*
- *it really is a "must have" tool to make your life easier.*

Another early user, Richard ***Morgan of Morgan Metal Corp*** of *Acacia Ridge*, was very focused on using VacLift as a way to decrease the damage to his materials while transporting and lifting in the factory.

"*We process a lot of expensive stainless steel,*" explained Richard. "*And we now have visibly less damage and rework as a result of using VacLift.*"

"*VacLift paid for itself in a couple of months in terms of reduced damage to our stainless steel stocks*" he continued.

Richard admitted that he was reluctant at first to take on VacLift because he thought it was "*a bit slow.*" But when he realized the benefits of doing things right the first time and the consequent reduction in handling damage he decided to invest in the machine, with excellent results.

Overall, Richard sums up VacLift as **"*a great machine*" for us**".

6. Why buy a VacLift?

So far we've reported a range of reasons for buying an innovative, practical, Australian-made VacLift including

- It's safer, easier and more efficient for loading and unloading of machines, trucks and pallets.
- It turns awkward 2, 3 or 4 person jobs into single person operations.
- There are definite workplace health and safety benefits.
- It's more efficient overall, with faster loading and unloading times.
- It raises the morale of the operators because it makes their work easier and less demanding.
- It's cost effective and pays for itself in a just a few months, if not less!
- VacLift is Australian made.

What's more, spare parts are readily available "off the shelf" because it has been designed to include easy-to-purchase parts to keep down-time as low as possible. All parts are in stock at the manufacturer and available by express delivery if required. The pads are BWE's own design, Australian made and currently waiting on patent approval.

7. Other questions…

Are they made to any standard, such as Australian Standards?
Yes, they've been tested to, and comply with, the Australian Standards code AS 4991-2004 for vacuum lifting devices.

What warranty is provided?
Warranty given is 12 months on all parts except batteries.

What power source is required?
As a power source, only an air line supplying approximately 60 litres (2½ cu ft) per minute at 5½ bar (80psi) for operation is needed. You'll need access to a power point to charge the control/alarm box internal, sealed, maintenance free battery as required. On the front panel is a battery monitor to indicate when charging is required. The supplied charger is automatic, therefore the charge rate drops to a trickle charge after full charge is reached.

The self contained battery operated units do not need any external power or air for their operation. They do need access to a power point to charge their internal sealed, maintenance free battery when required. On the front panel is a battery monitor to indicate when charging is required. The supplied charger is automatic, therefore the charge rate drops to a trickle charge after full charge is reached.

What about the Pads?
VacLift is offered with a range of pad solutions from clean room environments through to harsh industrial situations.

What about training in operating the VacLift?
It is highly recommended that all operators of any lifting devices have proper accredited safety training. The pads need to be inspected daily and the air/vacuum strainer bowl needs to be checked and emptied as required.

8. Your next steps

Purchasing a VacLift is only recommended if you want an unfair competitive advantage over your competitors in terms of savings in:

- The cost of your workforce spent on unproductive activities
- Lead times and operations efficiency
- Reduced risk of expensive, lost-time accidents

We strongly suggest you do your homework and search the web for competitive products to assure yourself that VacLift is the best one for you. To help you make your decision we're happy to provide you with contact details of business users who will be pleased to briefly talk about their experience with VacLift.

Contact Blue Water Engineering now to discuss the savings you'll make and the opportunities you'll have to reveal the profits hidden in your business via the purchase of the VacLift product.

9. The VacLift Guarantee

Using the VacLift as recommended will help you achieve the best results from your VacLift, we guarantee it will boost your productivity and make your workforce smile and happy. A full 12 month factory warranty covers all VacLift units and beyond the warranty we carry the full range of spare parts and offer ongoing technical support.

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