



We've been engineering solutions  
for over 50 years.



❖ Bulk Grab and Dust Controlled Hopper, Darwin, Australia

CARGO HANDLING

## page macrae engineering overview

**Established in Tauranga in 1955, Page Macrae Engineering has built up a reputation as one of New Zealand's premium engineering companies. Operating from Aerodrome Road in Mount Maunganui, Page Macrae is within one kilometre from Tauranga Airport and three kilometres from New Zealand's largest and busiest port.**

Offering a wide range of engineering services and products from design through to fabrication, on-site installation and project management, we pride ourselves on the ability to solve problems through innovation and "thinking outside the square".

We have extensive knowledge and experience having completed a large range of complex engineering projects in industries such as power generation, petrochemical, pulp & paper, food processing and materials handling.

Page Macrae Engineering is an ISO9001:2008 accredited company along with being site safe members.

**Industry in Growth with the "Mount" (Mauao) and the Tauranga Harbour entrance in the background.**



➤ Our 4 hectare facilities in close proximity to the Port of Tauranga. ●

✦ Page Macrae's first bulk grab in use at Port of Tauranga.



## cargo handling equipment

With over 50 years of engineering experience behind it, Page Macrae Engineering is regarded as Australasia's leading manufacturer of ship cargo handling equipment. The company's bulk handling expertise covers the complete concept, design, build and commission process. Page Macrae Engineering has commanded a reputation for delivering high quality equipment that is robust, low maintenance and highly productive, regardless of conditions and loads.

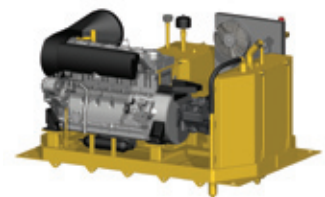
Page Macrae has invested heavily in computerised design and R&D to ensure the highest, most consistent standards of design and manufacturing. The durability of our equipment is a result of this exhaustive process. As environmental standards at ports globally have been lifted, Page Macrae has continued to set new benchmarks with equipment that meets and exceeds those standards, making our equipment the first choice for stevedore and port authority companies operating under close environmental scrutiny.

### Under production



❖ An order of grabs nearing completion for a New Zealand customer.

### 3D Modeling & Design



❖ Diesel Hydraulic Grab Pump Module.

- ❖ PM Grabs - Mechanical wire rope, chain and diesel hydraulic
- ❖ Log Lifters— Log loading, spreaders
- ❖ Hoppers — Standard and Dust Controlled
- ❖ Multi-Lifters—Air operated hooks, manual or radio remote release
- ❖ Grapples — Log loading and discharge

### Our Quality Assurance Mission Statement

To be the leading provider of quality engineering products and services in our markets.



❖ Log Lifter in use at Port of Tauranga.

## pm grabs

**The demanding business of bulk cargo handling and discharge requires a grab to withstand extreme conditions and operate to the highest standards of reliability.**

**Page Macrae Engineering has focused 50 years of engineering excellence on designing just that.**

Page Macrae's 'PM Grabs' technology and design focuses on combining the demands of tighter environmental regulations around dust and noise emissions, with the need to increase grab productivity and discharge rates.

Page Macrae have developed both its mechanical and diesel hydraulic bulk grabs with this in mind – both grab ranges have unique design and technology that sets new standards and is winning high praise from demanding stevedoring clients globally.

Our overlapping blade seal design ensures excellent bucket seal integrity across a wide range of bulk cargo types, retaining maximum flexibility and cost effectiveness.

Page Macrae grabs are designed for a long service life with the use of high quality components and manufacturing processes to achieve this.

Ease of servicing and maintenance of the grabs is ensured by careful selection of component placement and access to service areas.

### THE PM GRABS RANGE OFFER:

- ❖ Radio Remote Mechanical Clamshell Grabs
- ❖ Touch Mechanical Clamshell Grabs
- ❖ Radio Remote Diesel/Hydraulic Clamshell Grabs

Page Macrae were proud recipients of the Australian Bulk Handling Innovative Technology Award for 2010, for our Diesel Hydraulic Grab. We were also a finalist in the 2010 IBJ Awards (International Bulk Journal) in Europe, competing against major bulk grab manufacturers around the world.

Page Macrae have grabs operating in all major ports in New Zealand, several key ports in Australia and more recently at one of the world's largest nickel mining projects in Koniambo, New Caledonia.

#### PM Grabs team



- ❖ Diesel Hydraulic Grab destined for Koniambo, New Caledonia.

#### Mechanical Grab PM-14-R2



- ❖ Discharging palm kernel, Port of Tauranga, New Zealand.

❖ Bulk Grab in use at Fisherman Islands, Port of Brisbane.



## wire or chain mechanical grab

### THE CHOICE FOR:

- ❖ Low operating cost
- ❖ High productivity
- ❖ High digging capacity

Our standard mechanical bulk grabs feature a low centre of gravity and compact arm positioning, giving the grab a tighter operating profile. Serrated bucket teeth edges, combined with an overlapping blade seal design, makes this grab the ideal solution to handle both fine and coarse cargo product.

The green design focuses on reducing the grab operations environmental impact through noise and dust reduction. Dust emissions are reduced with a unique overlapping blade seal that seals in the material being transported, reducing leakage.

## diesel/hydraulic grab

### THE CHOICE FOR:

- ❖ Low operating height
- ❖ Low noise
- ❖ High productivity
- ❖ High digging capacity
- ❖ Difficult discharging situations

Discharge times can be maximised even in the most demanding conditions where dust emission concerns are high which means the use of mechanical remote release grabs is compromised. The Diesel/Hydraulic series of bulk grabs combine the versatility of PM Grabs' standard mechanical grabs with the infinite discharge control of diesel/hydraulic operation.

The Diesel/Hydraulic Grab sets new environmental standards for minimising noise and dust emission now required by many port authorities and EPAs. With a low drift profile, this reduces the impact of loading variables including ship height, tidal movement and crane type, ensuring maximum shift productivity regardless.

As with the standard mechanical bulk grab, the diesel/hydraulic grab is focused on high productivity and low dust emissions. The risk of environmental damage from an oil spill is also reduced by an internal oil catchment and oil fuel tank design.

**Mechanical Grab PM-10H-R1**



❖ Discharging sulphur, Townsville, Australia.

**Diesel Hydraulic DH-12-R2**



❖ A grab in action - discharging product.

❖ Mike Lehan, General Manager with the 2010 Bulk Handling Innovative Technology Award.



## dust controlled hoppers

**Bulk cargo operators require equipment, solutions and expertise to help reduce dust emissions at discharge while maintaining maximum unloading productivity. At Page Macrae, we provide the technology and expertise to achieve this with world class design and engineering solutions.**

50 years experience in designing and manufacturing cargo handling equipment makes Page Macrae a leader in this field. Page Macrae offer a combination of discharge solutions that will protect the environment without compromising bulk discharge productivity.

Page Macrae's Hoppers have been designed and built in conjunction with clients to combine these existing and new technologies, arriving at a solution that will satisfy environmental, client and port stakeholders.

The hoppers are operating for clients in areas where dust control is a priority, with outstanding success in providing a dust controlled solution.

### DUST CONTROLLED HOPPERS

**Featuring:**

- ❖ Dust controlled inflow chutes
- ❖ Ship to hopper spillage recovery
- ❖ Easy cleaning access

Page Macrae also offer a standard hopper for low dust products.

### STANDARD HOPPERS

**Featuring:**

- ❖ Optional dust controlled inflow chutes
- ❖ Manual/hydraulic or pneumatic operation
- ❖ Internal or external transport wheels

❖ Hopper and grab installation,  
Darwin, Australia.

#### Dust Controlled Hopper



❖ In operation, Darwin, Australia.

#### Loading Spouts



❖ Discharging cement clinker into truck.



## log lifters - safety release

Page Macrae's Log Lifter is built for operating in the most demanding conditions. Combining enhanced safety with rugged simplicity allows them to operate year after year with minimal maintenance. The Page Macrae Log Lifter is the first choice for port operators requiring a flexible low cost bulk log lifter to improve safety, productivity and handling efficiency.

With over 15 years of use the Page Macrae Log Lifter design has proven itself to be an industry benchmark for simplicity, low cost use and high productivity rates. The Log Lifter is the first choice for stevedores loading bulk logs in Canada, Australia and New Zealand, and many are still operating lifters well into their second decade of life, with an impeccable safety record.

### PAGE MACRAE LOG LIFTER

#### Featuring:

- ❖ Integrated safety features
- ❖ Rugged construction
- ❖ Simple maintenance requirements
- ❖ Short operator training times
- ❖ High reliability
- ❖ Low operating costs
- ❖ Safe working load up to 36 tonnes

"Maintenance is minimal – once a year we will strip them down, re-grease them, check the top pin and re-assemble them. The Lifters are also very safe in a fairly dangerous environment – once latched, they cannot discharge until the plunger strikes the surface.

"We have been using Log Lifters for over 10 years, and don't replace them, we just add to the number we have as our business grows. They last very well and get a lot of punishment without any damage – you certainly get your money's worth out of them."

Karl Warren, Gear Manager ISO Stevedores, Tauranga, New Zealand.

### ENDURING SAFETY, STRENGTH AND RELIABILITY

#### Log Bundle Hook Up



❖ Operator friendly wire hooking system.

#### Easy Maintenance



❖ Log Lifter servicing.

❖ Discharge Operation  
– reliable release time after time.



**PAGE MACRAE**  
*Engineering*

We've been engineering solutions

**for over 50 years.**

## CARGO HANDLING EQUIPMENT

**BRUCE ENNIS**  
Cargo Handling Equipment Manager

Mobile: + 64 27 498 3411  
Phone: + 64 7 575 5079  
Fax: + 64 7 574 4407

Email: [brucee@page-macrae.co.nz](mailto:brucee@page-macrae.co.nz)  
Website: [www.pmgrabs.co.nz](http://www.pmgrabs.co.nz)

## Main Contact

Phone: + 64 7 575 5079  
Fax: + 64 7 575 5994  
Email: [info@page-macrae.co.nz](mailto:info@page-macrae.co.nz)

## Physical Address & Visitors Entrance

61 Aerodrome Road  
Mount Maunganui 3116  
New Zealand

## Postal Address

PO Box 4050  
Mount Maunganui South 3149  
New Zealand

## Delivery Address

Aviation Avenue  
Mount Maunganui 3116  
New Zealand

## Online

[www.page-macrae.co.nz](http://www.page-macrae.co.nz)