

"ONE COMPANY, MANY LOCATIONS SERVICING AUSTRALASIA"





WINCHES & SHEAVES

EILBECK HISTORY

"A Passion for Excellence"

The Eilbeck family have Engineering in their blood, going back four generations to the first Tom Eilbeck, who arrived in Western Australia in 1892 from Cumberland England. He was one of the first graduates of the University of Western Australia. In 1907 Tom Eilbeck went on to becoming the founder of T. Eilbeck and Son Limited, later becoming a distinguished business man, not only recognised for his excellence in Engineering but also for his political and business influence.

Today, current Managing Director of Eilbeck Cranes, Tom Eilbeck grandson of founder shares not only the same name but possesses an equal drive for Engineering excellence and innovation. Traditional family values such as hard work and determination are not used as punch lines but rather have been foundation blocks in the history of this family's Enterprise - Eilbeck Cranes. Today Eilbeck Cranes is proud to run six manufacturing plants in Perth, Sydney and Mackay, with service outlets spread throughout Australia.

Eilbeck Cranes has made its mark both nationally and internationally, as the only organisation to provide a serious challenge to the traditional European domination within the Crane Industry. Indeed, Eilbeck Cranes tower over the Australian market place with a winning share of the local market, and are proud to be recognised a serious contender in the international scale.

The global recognition has been hard won against international engineering firms with far greater financial resources and in theory, far greater access to human expertise. Yet still, Eilbeck Cranes has successfully launched a new line of product - Eilbeck Winches. Within only 2 years from conception, Eilbeck Winches - a division of Eilbeck Cranes, has taken on the challenge head on and successfully established itself as market leader in the Winch Industry. From opening

Eilbeck Winches & Service Facility in Ingleburn, NSW

its doors in 2011, to currently manufacturing over 200 winches per year, the Eilbeck dynasty has proven itself over and over again. The Eilbeck Cranes' story has all the ingredients to be regarded as Australia's greatest crane company; from its history, a devoted sales team, an innovative engineering team, strong management team, and precision shop floor fabrication team, they all share the same core values.

"What sets us apart is our people who unquestionably are our greatest asset." Tom Eilbeck



100 ABUS

= 0

STAHL N

Third generation Tom Eilbeck machining the drum for a winch project - 1970s

10t Crab OHTC



"Eilbeck Winches offer Maximum Performance and Reliability"





The Ratchet & Pawl Brake System is a combination of a manually operated holding Pawl/Ratchet and a semi-automated brake motor. In the powered down state, the Pawl is positively engaged into the ratchet slot located on the side of the hoist drum. All pulling forces on the wire rope are transferred from the ratchet slot to the pawl, which in turn isolates the geared motor from the counterweight forces. The Hoist Ratchet Slot will rotate away from the Pawl, thus disengaging the Pawl. The Pawl will continue to interface with each ratchet slot, through a rise & fall motion as the hoist drum rotates. If the hoist normally closed upper working Limit Switch opens or the normally closed Emergency Stop is depressed the haul in motion will stop.

40kN MRC Conveyor Take-up Maintenance Winch - Cliffs Asia Pacific Iron Ore Pty Ltd.



Take-up Winches for Caval Ridge Project - BM Alliance Coal Operations Pty Ltd.

100 Mars

13 off Winches from 3.5 to 19.4 tonne line pull and 86 off Sheaves ranging from 400mm to 630mm. Variety of options of slack rope devices, rotary limit in S/S 316 IP65 enclosures, pawl locking device with indicator limits.

A special option of a slew bearing where the drum has full support at both ends allowing the winch gear motor to be removed leaving the conveyor fully operational whilst the gear motor is removed for service or major overhaul.



Winch Capacity	320ł
Line Speed	24m
No. of Drums	1
Rope Diameter	32m
Travel Lenght	36m
Gear Box	Plan
Motor Power	110k
Brake Type	Hyd
Weight Approx.	9150

/min netary ٢W raulic Fail Safe Okg



"Our line of Winches incorporates over **107 Years of Engineering** and Manufacturing Experience of Eilbeck"



10t Capacity Winch designed to operate in ambient temperatures of 65-70°C - Simcoa Furnace Expansion Project

Winch Capacity: 117.7 kN (12t) Line Speed: 4 m/min Rope Diameter: 28mm Rope Construction: 1960 MPa Rope Breaking Strength: 726 kN Rope Static Safety Factor: 5.5 Rope Length: 50m Gearbox Ratio: 709

Gearbox: Right angle planetary Motor Power: 11.0 KW/4-Pole/415V Brake: Electro-Magnetic Winch Weight: 1100 kg









12t Take-up Winch - Kestrel Mine Extension, Rio Tinto

Calibre Winch Iron Ore Conveyor Project followed on the back of SKM Cape Lambert Project and KBR Hope Down 4 Project which were also both substantial winch orders for Eilbeck.

Western Turner Syncline Expansion incorporates the construction of a primary crusher and a 20 kilometre overland conveyor with Eilbeck Winches to deliver ore to the Tom Price primary stockpiles. The overland conveyor will be fully enclosed to minimise dust and noise. Hamersley Iron and Rio Tinto recognise Eilbeck Winches not only to be a product of quality but also a package that comes with engineering integrated solutions.

Eilbeck provides not only static winches also dynamic winches with turn but key electrical and control system with caliper brake working in conjunction with the conveyor control system maintaining a specified conveyor tension. Eilbeck contract comprised of: 2 off Static Winches M5 - 37t line pull 6 off Static Winches M5 - 22t line pull 1 off Dynamic Winch M7 - 12t line pull with VSD, Caliper Disc Brake, 67 off Sheaves

ranging from 700mm to 1120mm.

Overhead Conveyor Take-up Winch - BHP Billiton Ore Handling Project, Jimblebar

BHP Billiton has recognised Eilbeck to be reliable supplier with the ability to be flexible and to offer integrated designs to suit the client requirements. Jimblebar is part of an expansion project, launched in 2010 and aimed at increasing production from the Pilbara mines to 240 million tonnes of iron ore annually by 2013. The expansion of Jimlebar, together with an expansion of the inner harbor at Port Hedland and works on the duplication of rail tracks. The project is titled Rapid Growth Project 6.



.....

Eilbeck Crane's contract comprised of 1 off Winches with 25t line pull, class M6 and capacity off 100t, rope diameter 44mm with 2 x 102m capacity plus 14 off Sheaves 1240mm class M8. The Winch is complete with a 1700mm disc brake with 6 off Svedberg Calipers with a 300Nm brake torque which allows the winch to be remotely operated. Additional features are rope cleaner, the driven drum end mounted on a slew bearing allowing for the winch drive to be removed even with full load on the winch.





12t Take-up Winches - Rio Tinto, Marandoo Mine Phase 2 Project

Design, manufacture and supply of 5 off 12t take-up winches and 1 off 16t winch and corresponding capacity take-up sheaves. The winch system is used to position the counterweight within the acceptable travel limits in the take-up tower. Upper and lower end of normal travel limit switches are activated when the counterweight moves past them. Once activated, the winch automatically operates for a preset period of time and return the counterweight towards the centre of travel. Operation of an upper and lower over-travel limits will allow the

winch system to initiate a conveyor quick stop sequence if activated. The winch is fitted with a fail safe spring, electrically released brake motor, which will allow the counterweight to be held in position in the event of a power failure. Other system protection and control components include motor protection and fault monitoring, travel limit switches for the counterweight travel, over-travel limit switches for the counterweight travel, emergency stop switch, slack rope detector system and load ratchet for complete mechanical isolation.



"Whether it's lifting loads into the air, across the ground, Eilbeck Winches will move anything, anywhere"



Repeat Counterweight Winch 24 tonne line pull with 190m rope capacity of 44mm diameter rope

Winch located on the tail end of existing conveyor at Alcoa Myrar Mine site in West Australia, was designed with client specified improvement on the 2003 year winch supplied to allow the gear motor to be removed whilst the winch still maintains full load by the use of large turnbuckle which links onto the drum allowing pretension of the drum, along with safety pawl mechanism.

The manufacturing was carried out in Eilbeck Cranes new Winch Factory set up in Ingleburn NSW, for manufacture, service and testing.



100 Years



Static Take-up Winches - Cape Lambert, Port B

The Take-up System on each conveyor is designed to tension the conveyor belt by means of a suspended weight. The gravitational force on the suspended weight is transferred by means of a wire rope system to a trolley mounted take up pulley. The system required a winch to lower the suspended weight and thereby releasing the tension on each conveyor belt, allowing maintenance activities on conveyors

to be conducted. Eilbeck was contracted to design the Take-up System components for continuous loading and a load spectrum in form of the two GP winches for use in belt pulling during maintenance activities. Electric driven wire rope type winching units were designed for safe operation across the full range of loaded capacities and at the specified speeds.



Eilbeck has designed and manufactured a serial winch for the demanding Australian mining industry to Rio Tinto's specifications. The new winch has a capacity of 500kg, 45 metres of rope, M6 classification and is fully compliant with AS1418.

After successful trial of the first winch Rio Tinto ordered two more portal winches.

The new winches have a 3 tonne pull at 4.0m/min 140m line capacity, variable speed drive control with a remote control, IP66 rotary limit and simple plug fitting and standard Wilco outlet. Rio Tinto had rejected other Taiwanese winches being offered as they did not fully meet AS1418 hoist code and approached Eilbeck to custom build a winch to fit their demands.





8t Take-up Winch - NCIG, Coal Export Terminal Stage 2, NSW

Based at the Port of Newcastle, the world's leading exporter of coal NCIG exports thermal and metallurgical coal from the Newcastle, Hunter Valley, Gloucester, Gunnedah and Western Coalfields to destinations around the world.

The terminal is operating at 53 Mtpa nameplate capacity and



The winch is used to lower gravity mass to ground during conveyor maintenance. The rope on the Take-up System travels around the sheave on the trolley, up and over the gravity tower and down to the winch at the tower base. The winch is meant to be used to tension up a conveyor (the conveyor can go regenerative).

8t Take-up Winch in the Gravity Take-up Tower - NCIG, Coal Export Terminal Stage 2, NSW



undergoing expansion to increase capacity to 66 Mtpa. For the Stage Two of Coal Export Terminal development Eilbeck was contracted to design, manufacture and deliver 1 off 10t static conveyor take-up winch, 4 off 8t static conveyor take-up winches, and supply 53 off 500 mm diameter sheaves.

Electro-mechanical disc brake is integral with the motor. Power supply for the motor is 415V, 50Hz 3-phase, 4-wire and earth, derived from a 415V supply with a solidly earthed neutral. The feed circuits are separately protected for short-circuit, earth leakage and thermal overload.





Eilbeck Cranes has developed an innovative Tension Control Winch. The clients Plant Control System sends our Winch Control System the tension set point. Via redundant wire rope load cells, the speed & direction of the winch automatically hauls in or pays out rope to match the set point. Full diagnostics of the Winch Control System is passed to the Plant Control System via Industrial Comms link.

Owing to forced cooling of the winch motor and closed loop speed control, 24/7 constant torque tension control is maintained from zero rope speed all the way to maximum. Along with hydraulic released, fail safe spring return winch brake calipers safety is implemented as the highest design priority.











Hamersley Iron and Rio Tinto recognise Eilbeck Winches not only to be a quality product but also comes with an engineering integrated solutions providing not only static winches but also dynamic winches with turn key electrical and control system with caliper brake working in conjunction with the conveyor control system, maintaining a specified conveyor tension. Eilbeck Winches has successfully supplied such systems to BMA in the Queensland coal projects.



For the H4 Mine Project Eilbeck was commissioned to supply the Primary Crusher Ore Conveyor Take-up Winch and Train Load out Conveyor Take-up Winch 22 tonne line pull, 3 off Wet Product Screen Removal Winches 2.5 tonne line pull, 4 off Secondary Crusher Belt Feeders Removal Winches 5 tonne line pull, 2 off Scrubber Feed Spout Removal Winches 12 tonne line pull and 6 off General Purpose Winches 12 tonne line pull for various applications.



Eilbeck was commissioned to supply 16 off 22 tonne and 4 off 11 tonne take-up winches complete with 800mm & 630mm sheaves. After the supply of the first batch of winches and sheaves, we have been awarded the contract to supply the second batch of winches and sheaves. These are quality custom made winches built with an integrated engineering solutions with special electrical systems. The Cape Lambert Port B Project (CLBB) comprises the construction of a new port facility adjacent to the existing one. This will involve the construction of new train unloading infrastructure,



stockyard and screening facilities, ship loading facilities (including a new wharf) and associated dredging.

The Take-up System on each conveyor is designed to tension the conveyor belt by means of a suspended weight. The system must include a winch to lower the suspended weight and thereby releasing the tension on the conveyor belt, allowing maintenance activities to be carried out on the conveyor. The gravitational force of the suspended weight is transferred by means of a wire rope system to a trolley mounted take-up pulley.









Eilbeck Cranes has been awarded this project by Groote Eylandt Mining to design, fabricate and commission of Tilting Bridge Hoist System and Loading Boom Shuttle System on the ship loading conveyor.

0

100 Years

Ship loading conveyor has been upgraded to a higher capacity and as a results of this, mechanical, electrical and structural modifications had to be carried out to ensure compliance with relevant regulations and standards. Project main features required the successful installation, calibration, commissioning, operation and maintenance. Examples of the implemented components include the heavy duty drive system suitable for operation in harsh mining and marine environments, hydraulic fail-safe high speed and low speed brakes to meet requirements of special lifting applications, sheave block and equaliser sheave system, rope guide roller, load limit, over-speed and position limit switches.



22

<image>







12t Dynamic Take-up Winch - Calibre, Western Turner Syncline

The Winch Control System includes an embedded IEC 61131 control program. With modern VSD technology interfaced to the clients SCADA system high end control & diagnostics are achieved, realising a high quality, low downtime process.

Included in the Winch Control System is a 132kW variable speed drive which controls a 415VAC, 132kW winch motor. The VSD evaluates signals from the Plant Control System (PCS), field digital devices and a wire rope load cell. With these signals, the VSD controls the winch motor which in turn hauls in or pays out the wire rope, positioning the shuttle with respect to conveyor position. Whilst using multiple encoders, the system cross checks for transmission accuracy and absolute position of the hauled shuttle.

SHEAVES

Eilbeck Cranes is a proud Gosan's exclusive agent for Australia and New Zealand. We distribute and implement Gosan high quality products as sheaves, hook blocks, couplings and wheels. Gosan is the European leader in manufacture of custom made welded machined sheaves with manufacturing plants across Spain and US.

Eilbeck have been supplying quality equipment and engineering solutions through a diverse range of applications to the Australian

market for over 100 years and after using the quality Gosan product over the last decade it had proved to be built to very high standard, on time delivery and cost effective.

Eilbeck have been very selective over their history and always carefully selected the products they represent which in turn is part of the company's success and also why they only have agencies for the very best world class products they can find.

One Company, Many Locations

Besides being the leader of the Australian Market, Eilbeck Cranes exports around the globe from its modern Australian manufacturing bases in Perth, Sydney and Mackay.

Complementing its in-house specialist crane design and manufacturing skills, Eilbeck is a leading agent for German crane company ABUS.









100 Years

It has been the sole distributor for ABUS for over 24 years in Australia, New Zealand and Vietnam.

As the Ex. Cranes partner of Stahl Crane Systems, Eilbeck Cranes offers specialist capabilities in explosion-proof and spark-proof cranes.





Perth – Manufacturing

28 Jackson Street Bassendean Perth WA 6054 Phone: 61 (08) 9279 4800 Fax: 61 (08) 9378 3689 Email: perth@eilbeckcranes.com

Perth – Manufacturing

11 Yelland Way Bassendean Perth WA 6054 Phone: 61 (08) 9379 3724 Fax: 61 (08) 9378 3689 Email: perth@eilbeckcranes.com

Perth – Service / Testing

14 Yelland Way Bassendean Perth WA 6054 Phone: 61 (08) 9379 3724 Fax: 61 (08) 9378 3689 Email: perthservice@eilbeckcranes.com

Tom Price

Lot 27b Mine Road Tom Price WA 6751 Phone: 61 (08) 9279 4800 Fax: 61 (08) 9378 3689 Email: tomprice@eilbeckcranes.com

Karratha

Unit 3 / 4 Crane Circle Karratha WA 6714 Phone: 0407 208 025 Fax: 61 (08) 9185 4801 Email: karratha@eilbeckcranes.com

Henderson

Unit 1 / 4 McGrath Road Henderson WA 6166 Phone: 61 (08) 937 937 24 Fax: 61 (08) 937 937 24 24/7 0437 886 411 Email: henderson@eilbeckcranes.com Eilbeck Cranes - Australia ABN: 22 295 128 214 ACN: 008 973 662 T.Eilbeck & Son Pty Ltd T/F The Eilbeck Unit Trust www.eilbeckwinches.com

Sydney – Manufacturing

6 Moorlands Road Ingleburn Sydney NSW 2565 Phone: 61 (02) 9829 3700 Fax: 61 (02) 9829 3500 Email: sydney@eilbeckcranes.com

Sydney - Service / Winches

53 Lancaster Street Ingleburn Sydney NSW 2565 Phone: 61 (02) 9618 1904 Fax: 61 (02) 9605 5171 Email: sydneyservice@eilbeckcranes.com

Newcastle

1 / 50 Sandringham Ave Thornton Newcastle NSW 2322 Phone: 61 (02) 4966 8022 Fax: 61 (02) 4964 2285 Email: newcastle@eilbeckcranes.com

Mackay

32 Diesel Drive Paget QLD 4740 Phone: 61 (07) 4998 5599 Fax: 61 (07) 4998 5756 Email: mackay@eilbeckcranes.com

Brisbane

Unit 3 / 12 Sudbury Street Darra Brisbane QLD 4076 Phone: 61 (07) 3376 8255 Fax: 61 (07) 3376 1255 Email: brisbane@eilbeckcranes.com

Melbourne

Phone: 1800 225 325 Email: melbourne@eilbeckcranes.com

Adelaide

Unit 3 / 132-134 Port Wakefield Rd Cavan SA 5094 Ph: 61 (08) 8162 5150 Fax: 61 (08) 8162 5160 Email: adelaide@eilbeckcranes.com

New Zealand – Baker Cranes

www.bakercranes.co.nz 10 Aerovista Place Wiri Auckland 2150 Phone: 64 (9) 277 0736 Fax: 64 (9) 277 0735 Email: newzealand@eilbeckcranes.com

Vietnam – AVC

206 Road Lac Hong Commune Van Lam District Hung Yen Province Hanoi Vietnam Phone: 84 321 3980 410 Fax: 84 321 3980 411 Email: vietnam@eilbeckcranes.com





AS 4801 BUREAU VERITAS Certification

