



# NEPEAN Conveyors Product and System Catalogue

Innovation . Dedication . Specialisation



**1800 NEPEAN**  
**[www.nepeanconveyors.com](http://www.nepeanconveyors.com)**



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# Table Of Contents

<b>GLOBAL SOLUTIONS</b>	<b>4</b>
<b>PROJECT SOLUTIONS</b>	<b>7</b>
<b>TURNKEY CONVEYOR SOLUTIONS</b>	<b>8</b>
<b>CONVEYOR ENGINEERING DESIGN SERVICES</b>	<b>10</b>
<b>PROJECT MANAGEMENT</b>	<b>12</b>
<b>PRODUCT AND SERVICES</b>	<b>13</b>
Conveyor Idler	
Conveyor Rollers	
Conveyor Pulleys	
Conveyor Braking Systems	
Belt Monitoring System	
Mobile Systems	
Conveyor Guarding	
Dewatering System	
Belt Cleaners	
<b>SYSTEM COMPONENTS</b>	<b>31</b>
Transfer Stations	
Transfer Chutes	
Conveyor Drive Units	
Belt Storage/Loop Take Ups/Tension Control	
Tripper/Booster Drive Systems	
Winches	
Belt Maintenance Equipment	
Conveyor Tail Frames/Boot Ends	
<b>SERVICE AND SUPPORT</b>	<b>41</b>
Refurbishment	
Service and Support	
Conveyor Inspections and Audits	

## CONTACT







# Global Solutions

## GLOBAL STRENGTH, LOCAL SERVICE AND SUPPORT

NEPEAN has a unique product and service offering across our Conveyors and Power Business Units, with strong engineering and technical capabilities developed over more than 30 years as well as significant local presence near key customers and our global supply chain office based in China.

We are an expert conveyor components and conveyor systems OEM, with manufacturing facilities in Australia, Germany, Sweden, Finland, South Africa and Brazil, servicing 66 countries.

We are Australia's Market Leader locally present through a network of specialised engineering and service centers and manufacturing facilities. This ensures that our customer service and technical support is there for you whenever you need it, both for original components and as replacements in your existing systems.





## NEPEAN Conveyor locations:

- Mackay (4,200m2 Fab)
- Wollongong (6,500m2 Fab)
- Smeaton Grange (3,000m2 Fab)
- NEPEAN Engineering (40,000m2 Site / 20,000m2 Fab)
- Bassendean, Perth (1,423m2)
- Brisbane (Engineering Services)
- Central Coast (Engineering Services)
- Gulgong (Refurbishment Services)



NEPEAN Conveyors Mackay



NEPEAN Conveyors Wollongong



NEPEAN Conveyors Smeaton Grange



NEPEAN Engineering & Innovation Narellan



**NEPEAN has a unique product and service offering across its Conveyor Business Units, with strong technical and engineering capabilities developed since 1985, as well as significant local presence to support its key customers.**



## NEPEAN Conveyors are Australia's market leader

NEPEAN Conveyors is a wholly Australian owned company specialising in the design, in-house manufacture, installation and service of overland, underground and surface belt conveyor products, systems and bulk materials handling projects for over 30 years.

NEPEAN Conveyors has forged a solid reputation for robust, practical and reliable designs and quality manufactured equipment. NEPEAN Conveyors has become the leading technology provider for bulk materials handling.

- ◆ **OEM support for order of magnitude studies through pre-feasibility studies and bankable studies**
- ◆ **Engineering from concept, design, and detailed drafting**
- ◆ **In-house specialist conveyor and materials handling designers (mechanical, process, civil/structural, electrical)**
- ◆ **Global sourcing, supply and in-house manufacture (mechanical, structural, process and electrical)**
- ◆ **Flexible engagement: e.g. financing, D & C contracts**
- ◆ **Performance warranty: single point accountability (all disciplines)**
- ◆ **Installation and commissioning**
- ◆ **Sustainable technology: e.g. VVVF energy optimisation systems**
- ◆ **PMBOK accredited project managers**
- ◆ **Life cycle services: audits, optimisation studies, spares, after sales service and training**





# Project Solutions

## **KMG**

### **Wyndham Barge Loading Facility**

Design and supply package for greenfield site, including: 1755tph 900mm CV01 Jetty Conveyor  
1755tph 900mm CV02 Pivot Conveyor.  
Delivery to remote site with installation assistance and commissioning.



KMG - Wyndham Barge Loading Facility

## **Whitehaven Coal**

### **Narrabri Coal Drift and Skyline Conveyor System**

Turnkey design and construct package for greenfield 3600tph system. Including: drift conveyor, skyline tripper stockpile conveyor 11kV/690V/415V electrical substation and switchroom installation, commissioning and training packages.



Whitehaven Coal - Narrabri Coal Drift and Skyline Conveyor

## **Taganito Mining Corporation**

### **Complete Laterite Nickel Ore Handling System**

The project involved the design, supply and construction supervision of a complete laterite nickel ore handling system covering civil works, structural, mechanical, electrical and control element with a 1.5km overland conveyor.



Taganito Mining Corporation - Laterite Nickel Ore Handling System

## **Idemitsu**

### **Boggabri Coal Terminal Upgrade**

Truck load out facility. Design and construct 1500tph stockpiling system including: conveyors, radial stacker, feeders, unloading station, loadout station, roadways, HV substation with PF correction, control system, dust control, earthworks.

Ramp conveyor included covered gallery discharging onto 20,000m<sup>3</sup> ROM coal stockpile. Project included civil design of footings and slabs and reduced speed conveying operation during development phase of operation.



Idemitsu - Boggabri Truck loading facility

# Turnkey Conveyor Solutions

**NEPEAN Conveyors supply turnkey conveyor solutions from concept to commissioning, with full life cycle support. Our highly skilled design team can provide innovative conveying solutions in surface and underground mining including port facilities.**

From humble beginnings, NEPEAN Conveyors now supply markets throughout Australia, New Zealand, South Africa, China, Indonesia, Japan, Great Britain, Europe, Scandinavia, Brazil, Colombia, Canada and the United States of America.

Design and manufacturing facilities have been established in Wollongong NSW, Mackay Qld, Brisbane Qld, Perth WA and Johannesburg South Africa, along with significant businesses in Europe, Scandinavia, North America, Brazil to meet growing demand from local markets.

Our systems engineers are constantly improving standard and specialised products through close interaction with customers, suppliers and end users and by adopting industry best practice.

With all facilities accredited to relevant ISO 9000 quality standards, our processes and practices conform to ensure products and services meet and often exceed our customer expectations.

All of this is supported by the NEPEAN after sales service network.

**In addition, NEPEAN Conveyors is experienced in delivering complex bulk materials handling solutions including:**

- ♦ Overland conveyors, underground materials handling systems
- ♦ Underground coal clearance systems - including development, trunk, maingate and mobile development conveyors systems
- ♦ Drift and ramp conveyor systems
- ♦ Surface stockpile and reclaim systems
- ♦ Process plant conveyor systems
- ♦ Export terminal conveyor systems
- ♦ Decline development conveyors in hard-rock
- ♦ Regenerative and braked conveyor systems
- ♦ Train loadout systems
- ♦ Relocatable conveyors



## **How we do it:**

- ♦ Comprehensive product range
- ♦ Modern manufacturing facilities
- ♦ Proven industry experience
- ♦ Single point accountability

## **When dealing with NEPEAN Conveyors for turnkey solutions, you gain access to:**

- ♦ PMBOK accredited project managers
- ♦ In-house specialist conveyor design

## **As a provider, NEPEAN Conveyors have the capability to deliver:**

- ♦ Engineering analysis tools such as Finite Element Analysis (FEA) and Discrete Element Method (DEM)
- ♦ Functional specification and conveyor design
- ♦ Comprehensive range of conveyor equipment
- ♦ Site services including installation, supervision, equipment commissioning and routine maintenance
- ♦ Operator training and assessment
- ♦ Engineering and technical services support
- ♦ A wide range of electrical substation/starter designs are available, including VVVF and flameproof starters. Development of conveyor control software is integral to our design.





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# Conveyor Engineering Design

**NEPEAN Conveyors are a leading technology provider for fully integrated materials handling solutions to the mining industry. Using industry leading engineers and in-house software developed over 30 years of experience NEPEAN Conveyors specialise in providing engineered design solutions, and can offer these services to our valued clients.**

**We provide a range of Engineering Services with expertise and experience including:**

- ◆ Static and dynamic conveyor calculations
- ◆ Conveyor layouts
- ◆ Discrete Element Method (DEM) material flow analysis
- ◆ Structural audits
- ◆ Conveyor inspections
- ◆ Conveyor audits
- ◆ Pulley and idler audits
- ◆ Innovation

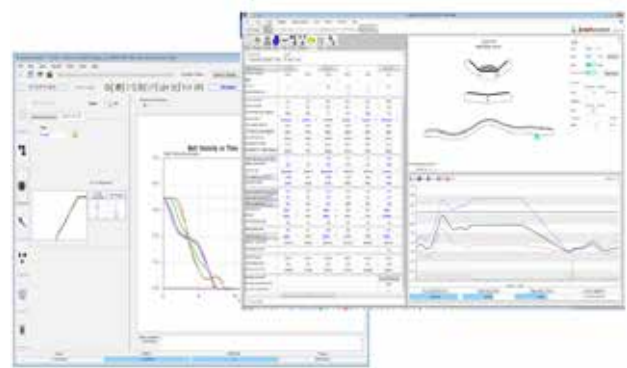
## **Static and Dynamic Conveyor Calculations**

Using Belt Analyst and Con2000 software solutions, NEPEAN Conveyors' experienced belt conveyor engineers specialise in performing complex static and dynamic power and tension analysis for all conveyor configurations.

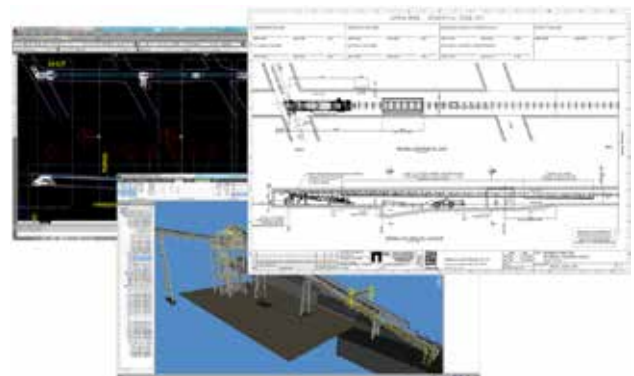
Our team has decades of design experience with some of the most difficult and complex conveyor systems in the world, with an intimate knowledge of transient loads, braking, regeneration, horizontal curves and intermediate (tripper) drives for long overland, surface and underground conveyor systems.

## **Conveyor Layouts**

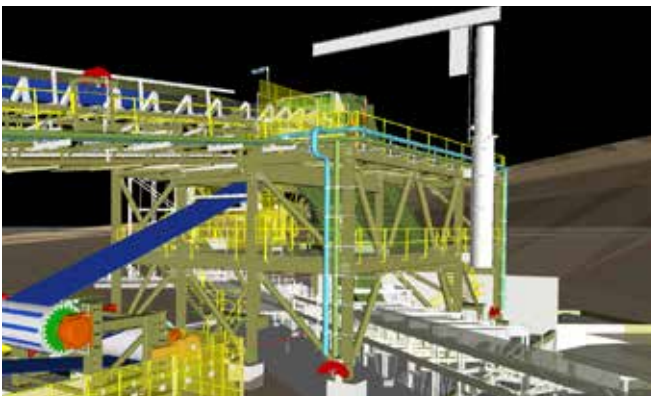
With decades of experience and knowledge of conveyors and their installation, operation and maintenance in the surface and underground mining industries, NEPEAN designers produce 2D and 3D engineering drawings in accordance with internationally recognised standards and internal and client specifications.



**Static and Dynamic Conveyor Calculations**



**Conveyor Layouts**



# Conveyor Engineering Design

## Discrete Element Method (DEM) Material Flow Analysis

Using state-of-the-art Discrete Element Method (DEM) technology NEPEAN engineers are able to quickly and accurately simulate the motion and effect of a large number of small particles.

Our Bulk Flow Analyst software is extremely flexible and can handle a wide variety of material properties and geometries including conveyor transfer chutes, longwall AFC and BSLs, feeders, bucket elevators and more; and when combined with good engineering knowledge and design experience, provides a reliable tool to predict the flow of material.

It is used to identify potential problems before full implementation, thereby minimising chute blockage and spillage, belt and chute wear and to reduce dust. It is trouble shooting by simulating the product behaviour, by means of a visual representation of how product may flow.

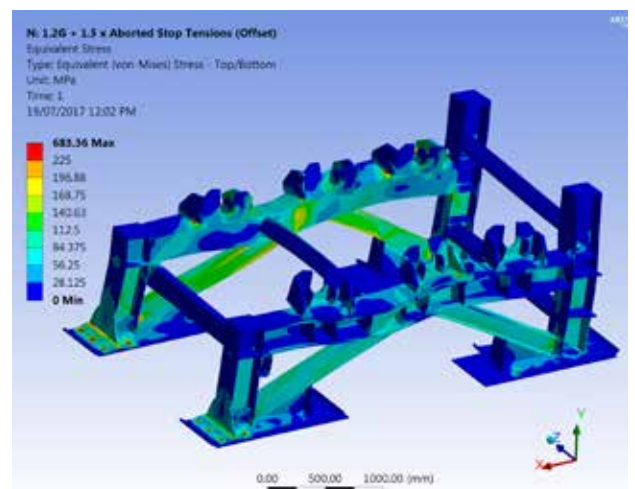
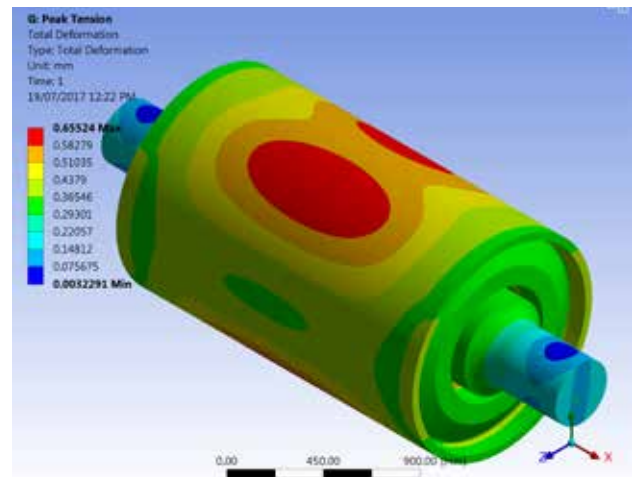
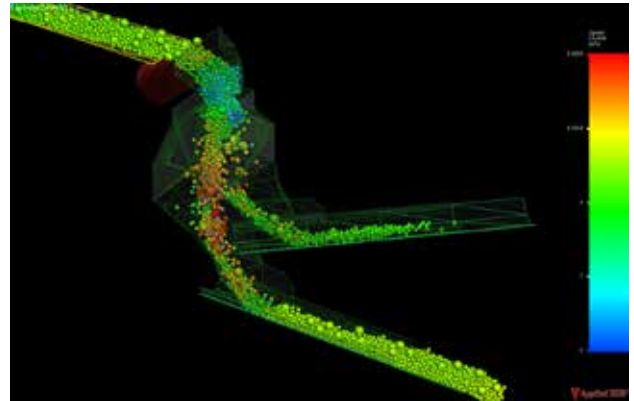
## Innovation

Innovation in engineering is much more than research and development. It encompasses an end-to-end process, such that it extracts value through implementation. Innovation involves:

- ♦ Creating or generating new activities, products, processes and services
- ♦ Seeing things from a different perspective
- ♦ Moving outside the existing paradigms
- ♦ Improving existing processes and functions
- ♦ Disseminating new activities or ideas
- ♦ Adopting things that have been successfully tried elsewhere

Innovation covers the area from minor quality improvements to 'cutting edge' products and services.

**Structural Audits, Conveyor Inspections, Conveyor Audits, Pulley and Idler Audits (Check out page 68)**



# Project Management

**Regardless of the project size or nature, NEPEAN provide dedicated Project Managers for contracted projects so we can provide the most timely and effective response to demanding and changing project requirements.**

Our Project Managers are suitably qualified\* individuals who take pride in delivering their projects on time, and on budget.

Working with the client and developing a strong client relationship is paramount to project delivery, and NEPEAN's team of Project Managers have a successful track record when it comes to client satisfaction.

The Project Manager is given full authority for the overall management of the project including scope control, schedule, cost, risk, planning, communications, and deliverables.

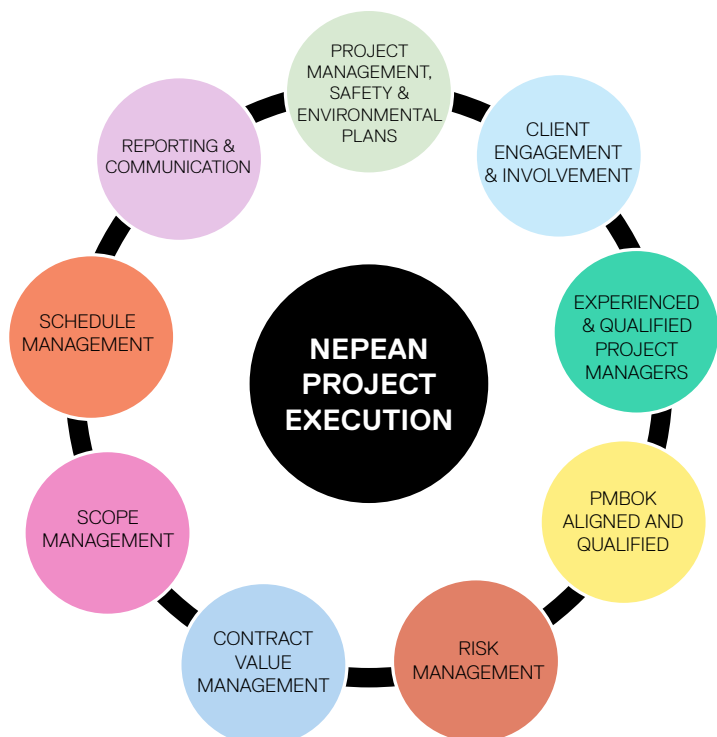
NEPEAN Project Management Group are supported with the full cooperation of the various NEPEAN Management Groups to ensure project success.

Project Stakeholders can be assured that the project is in good hands.

## NEPEAN Project Management Tools

- ◆ Engineering backup and gate approval system
- ◆ Client kick off meeting
- ◆ Gantt chart
- ◆ Earned value and project tracking S-curves and cash flow modelling
- ◆ Internal and external design risk reviews and assessments
- ◆ Variation and project change system
- ◆ RFI system
- ◆ Milestone or earned value monitoring and claims
- ◆ Internal and external stakeholder reporting

\*PMP Qualified or equivalent local qualifications

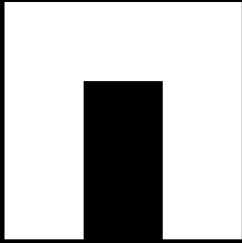












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TM

# Products and Services



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# Conveyor Idlers

**NEPEAN Conveyors operates the most advanced, high tech idler production facility in Australia. An automated line processes high speed conveyor rollers up to 193.7mm with larger sizes also available.**

Our product line includes:

- ◆ Suspended sets, fixed and garland type
- ◆ Fixed trough/vee – inline or offset
- ◆ Flat return
- ◆ Retractable impact sets
- ◆ Adjustable impact sets
- ◆ Training sets
- ◆ Varitrough
- ◆ Lightweight structure

Idlers are manufactured to our customers, design and tolerance requirements, in accordance with relevant Australian Standards.

NEPEAN Conveyors offer the “lipped flange” bearing housing, in-built low, Total Indicator Runout (T. I. R.) - providing increased bearing life and proven reductions in shell wear.

## High Performance

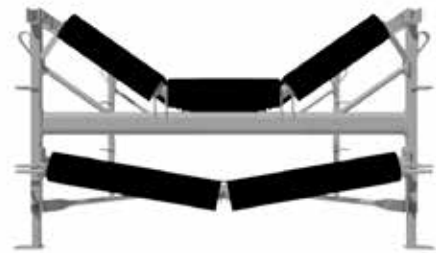
- ◆ Low vibration
- ◆ Low noise
- ◆ Low drag

Allows NEPEAN Conveyors to achieve superior bearing life.

## Design

- ◆ Lipped flange
- ◆ Internally welded
- ◆ Multi-labyrinth seal
- ◆ Breather hole

The external chamber on the tube protects the belt edge and the tube housings while the internal fillet weld is also protected from belt wear.



**Underground structure - Maingate**



**Underground structure - Trunk**



**Return set for surface application**



**Trough set for surface application**

# Conveyor Rollers

## Low Noise Aluminium Roller

Typical applications include ports, material handling plants and installations located nearby to populated areas or operating in corrosive environments.

## Galvanised Low Noise Roller

Galvanised low noise roller delivers extensive noise reductions, is typically used on large tonnage, high-speed conveyors, often carrying iron ore or coal, and is ideal around port facilities close to residential areas.

## FRAS Hybrid Roller

FRAS hybrid rollers are fire resistant and anti static (FRAS), using high strength long fibre nylon housings to provide a robust, safe and belt friendly product for underground conveyors.

## Impact Roller

Our rubber disc impact rollers are a highly effective way to dampen abrupt and large impact loads and subsequently to increase the life span of the rollers used in the impact zone, such as at loading and transfer points.

## HDPE Roller

The HDPE composite engineered designed roller uses a specifically formulated glass reinforced nylon compound to produce a light weight and belt friendly roller capable of medium duty applications.

## PVC Roller

PVC rollers are light duty and are designed to achieve a balance between, wear, low noise, supreme sealing, low running friction, light weight and belt friendly characteristics to alternative rollers on the market. These rollers are a cost effective solution for a light duty application.

## Disc Return Rollers

Disc return idlers operate by utilising durable rubber or polyurethane discs positioned at regular intervals along the roller to effectively eliminate conveyor belt carry back build up.

## Low Noise Steel Roller

The low noise steel rollers are manufactured using welded end housings, which are equipped with NEPEAN Conveyors' specially designed patented flange housings. Other features also include its belt friendly design, which means it is not prone to the "pizza cutter" effect, its high impact resistance and it equipped with precision bearings greased for life.

## Weigh Roller

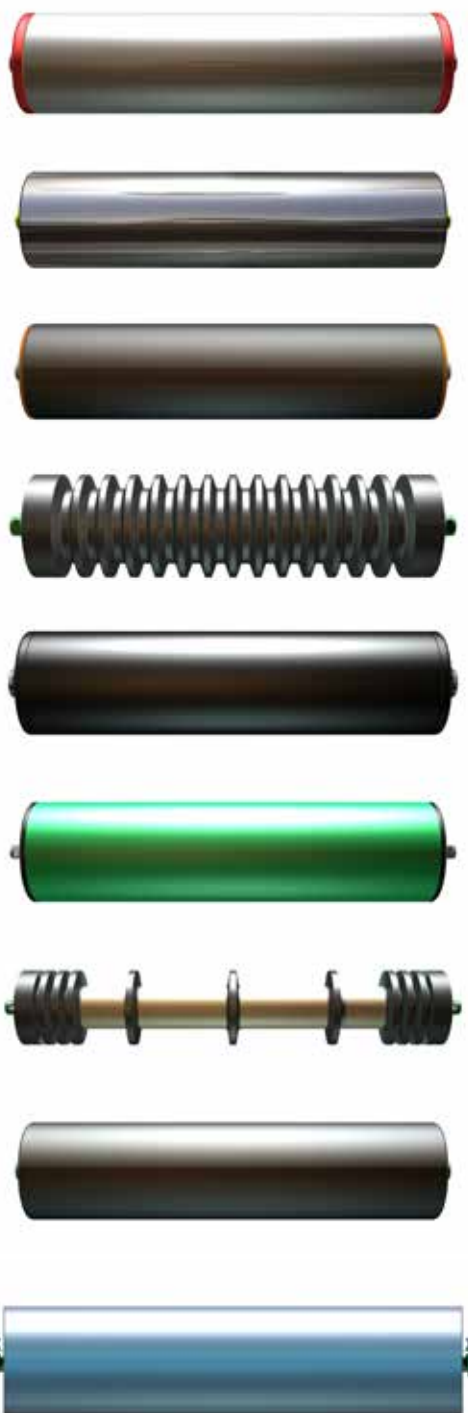
The weigh rollers are utilised as lead-in and lead-out assemblies to the belt weigh station. These high quality rollers are machined accurately to ensure Total Indicated Runout (TIR) is less than 0.1mm and a Maximum Indicated Slope (MIS) to be no greater than 0.03mm/6° of rotation.

## Available accessories include:

- ◆ End shields and rubber lagging
- ◆ Hollow shaft

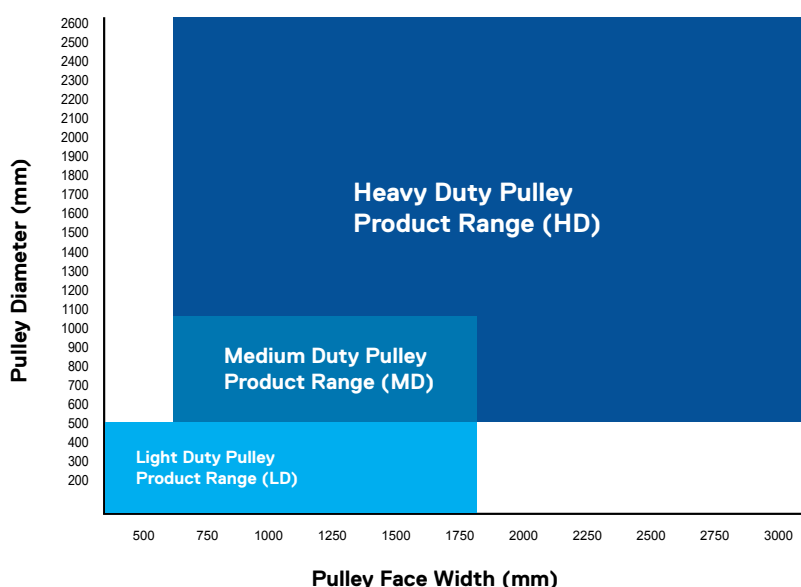
## Roller Sealing System

The sealing system is 100% NEPEAN Conveyor designed, manufactured and tested using our in-house capabilities.



# Conveyor Pulleys

**NEPEAN Conveyors manufacture both Dead and Live Shaft Pulleys. Our Live Shaft Pulleys are available over a wide range of sizes to suit the most demanding applications. Dead Shaft Pulleys are typically more economical to manufacture and offer a wider range of sealing options.**



## Our live shaft pulley benefits:

- ♦ Can be designed to suit the biggest conveyors and the most demanding applications
- ♦ Can do in-situ bearing replacement
- ♦ Can be made as a drive pulley



## Our live shaft pulley features:

- ♦ Solid-plate end discs
- ♦ Full penetration weld between end discs and shell
- ♦ Keyless locking elements
- ♦ Hot vulcanised lagging is available on any pulley

## Our dead shaft pulley benefits:

- ♦ Easy to set up (cheaper installation)
- ♦ Ideal for the confines of all mining applications.



## Our dead shaft pulley with internal bearings features:

- ♦ Cost effective and light pulley designs possible
- ♦ Through-shaft lubrication
- ♦ Alignment-free installation
- ♦ Support pedestals can be sized to replace pillow blocks



# Conveyor Pulleys

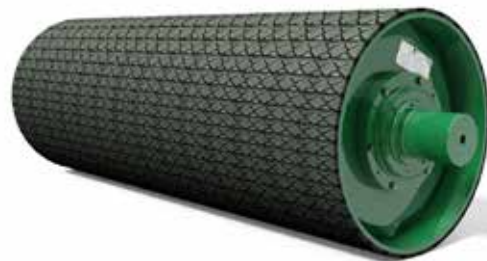
## Light Duty

When heavy loads or high speeds are not required, our high-quality, light duty pulleys operate with maximum efficiency in conveyors for sand, gravel and similar applications. They are engineered to provide an economic solution to a wide range of industry applications, where the belt widths are relatively narrow and the belt speeds are relatively low compared to, for example, high capacity mining conveyors.



## Medium Duty

These pulleys have standardised bearing centers for bearings up to 360 mm (15") and are designed for a load range typical for stockyard conveyors, mobile machines and similar applications. In addition to standard bearing centers, pulleys can be easily adapted to your specific bearing.



## Heavy Duty

Large, high-capacity mining conveyors and heavy mobile mining systems and machines require pulleys that are engineered and manufactured to the most exacting standards. We used our unique in-house software to design the heavy duty pulleys, to ensure consideration of all operating conditions. Calculation of fatigue life ensures our pulleys are built to last.



**NEPEAN Conveyors offers customised solutions for special applications:** blasting, painting and pulley lagging.



# Conveyor Pulleys

## Pulley lagging

- ◆ Prior to lagging all NEPEAN pulley's are shot blasted to AS 1627, PART 4 CLASS 2 ½
- ◆ All pulley's are undercoated prior to lagging within 60 minutes of shot blasting and top coated to a dry film thickness of 150µm
- ◆ NEPEAN pulley's come with an option of cold bond, hot vulcanised and direct bond ceramic lagging options.

## Bare

**Typical applications:** Boot ends and heavy duty idlers.

**Features and benefits:** Save costs, option with knurled finishing (for improved belt grip).



## Polyurethane

**Typical applications:** Small diameters and port applications.

**Features and benefits:** Hard wearing for demanding conditions and grooved for water dispersion. FRAS\* or natural, one piece moulded to shell.



## Rubber

**Typical applications:** LD, MD, HD pulleys, drive and non-drive pulleys.

**Features and benefits:** Cost-effective, dewatering, FRAS\* or natural, improved belt grip, various thickness tailored to application (10-30mm). Hot vulcanised available upon request. CN Filler (Chloroprene bonding) available upon request.



## Rubber Back Ceramic Lagging

**Typical applications:** Drive pulleys, MD and HD pulleys.

**Features and benefits:** Dimpled (for drive pulleys) and smooth (for non-drive applications), reduces LTU tension requirements through better power transmission, increases pulley life, improved belt grip. CN Filler (Chloroprene bonding) available upon request.



## Direct Bond Ceramic (Available for improved adhesion)

**Typical applications:** Drive pulleys and Non-Drive, MD and HD pulleys.

**Features and benefits:** Low friction on non-drives, increase friction coefficient on drive pulleys, grouted tiles decrease the risk of ingress and corrosion, longer service life, superior bonding strength, proven application.



\*FRAS = Fire retardant antistatic

# Conveyor Pulleys

## Pulley Vibration Analysis

Vibration analysis has historically been used in predictive maintenance strategies across a variety of different industries for the purpose of early fault detection resulting in a reduction of maintenance cost and downtime.

Analysing data from multiple transducers in the context of rotational speed can allow technicians to identify underlying faults which would normally be undetected until there is a failure.

The same principle is applied in NEPEAN Conveyors Vibration Analysis which can be performed on new and existing pulleys where customers want a quantifiable measure of assembly quality and confidence that they have defect free bearing prior to dispatch.

Any defects are hence rectified prior to the pulley being dispatched, giving you assurance of plant availability from our world class facilities.

### Key benefits:

- ◆ Confirmation of pulley assembly quality
- ◆ Early identification of defects such as:
  - o Rolling element bearing faults
  - o Inner race defects
  - o Out of balance
  - o Insufficient lubrication
  - o Outer race defects
- ◆ Compatible with Independent testing contractors
- ◆ Applicable to a wide range of pulley sizes
- ◆ Verified baseline vibration values
- ◆ NEPEAN Conveyors can also provide **Dynamic Pulley Balancing**.

Especially relevant on speed pulleys operating at over 150rpm. Testing is performed with reference to ISO 1940-1.

- ◆ Numerous engineered safety mechanisms for operation.



## Pulley Assembly

All pulley's are assembled in a temperature-controlled clean rooms ensuring no dust ingress during assembly. At NEPEAN all employees are OEM trained and qualified for assembling pulleys. NEPEAN has the capacity to produce in excess of 1000 engineered class pulleys per year in our facilities.











# Conveyor Braking Systems

**We manufacture and supply a comprehensive range of oil immersed multi-plate disc brakes specifically designed for dynamic braking of belt conveyor systems.**

## **Benefits of NEPEAN Designs:**

### **Robust**

Long service life due to superior engineering and constant immersion in lubrication.

### **Stand-Alone Control and Power Unit**

Dedicated brake power unit provides hydraulic pressure and brake control function.

### **Compliance**

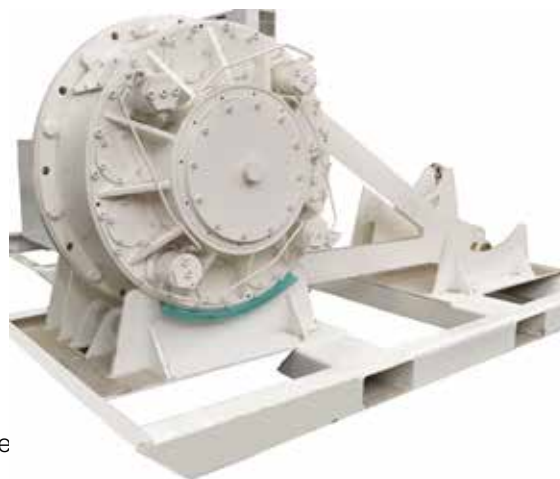
As an OEM, NEPEAN Conveyors' braking systems are supplied in accordance with relevant standards and guidelines for underground applications.

### **Compact**

The most advanced, compact, oil-immersed, multi-plate design. Safe Spring Applied Hydraulic Release operation (SAHR) ensures fail-safe application of brake during power loss situation.

## **Features of NEPEAN Designs:**

- ◆ Energy efficient (low breakaway mass)
- ◆ Manufactured in accordance with ISO 9001
- ◆ Compact, oil immersed, multi-plate
- ◆ Spring applied hydraulic release operation
- ◆ Hydraulic bleed control of failsafe application during power loss situations ensures the conveyor system is protected from excessive braking
- ◆ Dynamic capacities ranging from 1,000Nm to 160,000Nm (standard range)
- ◆ Gearbox mounted or pulley shaft mounted designs
- ◆ High thermal capacity
- ◆ PLC controlled deceleration rate
- ◆ Manual brake release function
- ◆ Engineering cooling solutions (if required)
- ◆ Long service life due to constant immersion in lubricating oil bath
- ◆ Explosion proof controllers and power units available
- ◆ Special designs available upon request
- ◆ Brake wear indicators available
- ◆ AS4024 compliant



Brake Model	Dynamic Capacity (kNm)	Typical Shaft Mounting	Maximum Speed (rpm)
<b>WB160</b>	<b>100 - 160</b>	<b>Pulley</b>	<b>150</b>
<b>WB100</b>	<b>60 - 100</b>	<b>Pulley</b>	<b>150</b>
<b>WB060</b>	<b>12 - 60</b>	<b>Pulley</b>	<b>150</b>
<b>WB012</b>	<b>6 - 12</b>	<b>Reducer</b>	<b>1800</b>
<b>WB006</b>	<b>0 - 6</b>	<b>Reducer</b>	<b>1800</b>





# HX270

## Belt Monitoring System



### Complete Belt Monitoring System

**Market leading technology in belt monitoring.**

**The BMS unit allows you to identify damage from minor to critical in real time with user defined parameters.**

The live data stream allows damage to be identified as its occurring, this in turn reduces the severity of incidents and downtime for repairs therefore reducing cost & increasing belt life through early notification.

Remote access availability enables all key stake holders control & viewing at anytime from anywhere. Technical support from the supplier from remote locations as required.



- ♦ **HX270 offers the widest range of fault detection capabilities in the market today**

- ♦ **Critical Belt Monitoring System**

- ♦ **Material, Clean Side & Steel Cord Damage Notification**

- ♦ **Minimal modifications to existing infrastructure**

- ♦ **Reduced Maintenance down time**

- ♦ **User friendly control module interface**



# HX270

## Belt Monitoring System

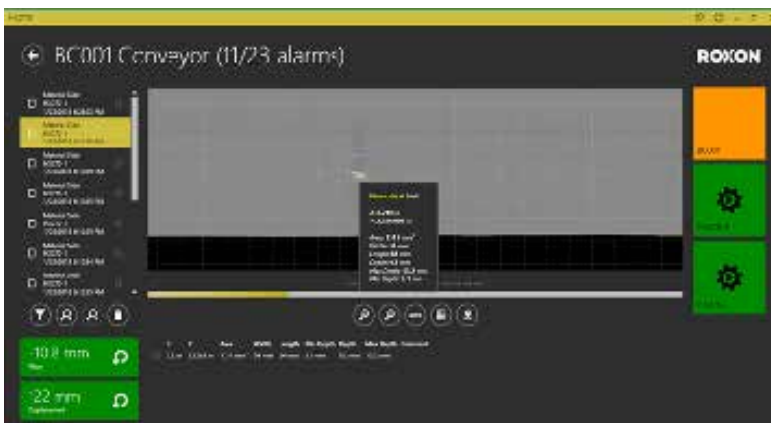
### HX270 Material & Clean Side Monitoring

- ◆ Continuous belt monitoring and recording
- ◆ User configurable packages as required for specific applications
- ◆ Misalignment measurement
- ◆ Material side typically installed near unloading point
- ◆ Clean side typically installed between the carrying and return belt near loading point
- ◆ Material and clean side installations require minimal modification to existing structure.



### HX270-3 Control Module and User Interface

- ◆ Controls the conveyor and any addition HX270-1 or HX270-2 monitoring modules
- ◆ Supports local and remote User interface access
- ◆ Notifications in the form of audible alarms, emails & text messages
- ◆ Belt fault data viewing, reporting and storing.



◆ **Low Maintenance,  
High Reliability  
proven**

◆ **Compliance with  
AS2211 & AS4024**

◆ **Live Belt Profiling**

◆ **Remote after  
sales SME service**

◆ **Onsite training for  
service techs and control  
room operators**



# Mobile Systems

**The industry leader in modular, transportable conveyor systems suitable for rapid deployment during mine development, each system incorporates a jib, drivehead and loop take-up in a readily transportable system, saving thousands of installation hours every year. NEPEAN Conveyors have three standard development conveyor systems designed to suit every development installation.**

## **Jiffy 75**

75kW Jiffy rapid deployment conveyor system features a two piece frame which allows the jib pulley to be extended over a typical bootend or loadstation.

### **Features:**

- ◆ Hydraulically actuating wheels for transport
- ◆ 7.6 metre static Loop Take-Up (LTU) and winch
- ◆ Powered by a single 75kW fluid coupling drive unit
- ◆ Simplest, most cost effective



## **Nifty 150**

150kW Nifty evolved from the success of the Jiffy.

In keeping with functions that are fundamental to a rapid deployment solution such as rapid transport, installation and removal, the Nifty 150 is a longer, more powerful development conveyor.

### **Features:**

- ◆ Semi-live 19m LTU system and electric winch
- ◆ Powered by either 2 x 75kW or a single 150kW fluid coupling drive
- ◆ When coupled to the extendable jib frame, the Nifty is suited for use over any transfer point



# Mobile Systems



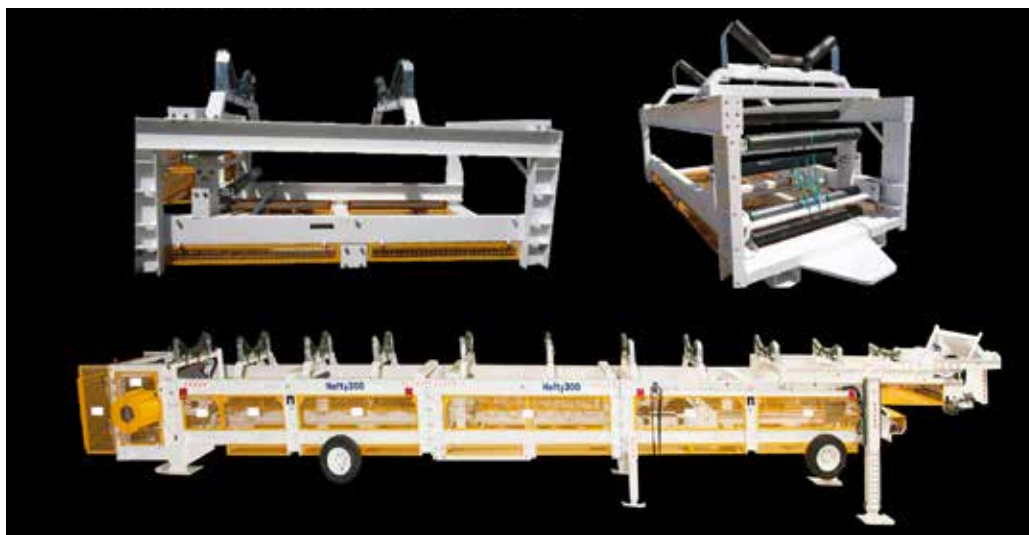
## Hefty 300

NEPEAN Conveyors' 300kW Hefty is the largest and most powerful system available. With 300kW of power, customers are able to use longer single flights with less cost and down-time associated with combining smaller systems.

The Hefty 300 allows for increased LTU capacity and belt stretch associated with development systems up to 4km long. Transported in two complete assemblies, erection is hydraulically assisted, cutting installation time significantly.

### Benefits:

- ◆ Live or semi-live 29m LTU and electric winch.
- ◆ Maintains complete control over operating belt tensions and stretch.
- ◆ Powered by dual 150kW drive units.
- ◆ Hydraulic actuating legs to assist with rapid installation.
- ◆ Upgradable to provide additional LTU capacity totalling 41.4m of semi-live LTU storage.



# Mobile Systems

## Hefty 300 XL

The Hefty 300 can be upgraded to the ultimate XL package which adds another 11.7m of LTU capacity taking the total storage capacity to 41.4m.

### Benefits:

- ◆ Maintains complete control over operating belt tensions and stretch.
- ◆ Powered by dual 150kW drive units.
- ◆ Hydraulic actuating legs to assist with rapid installation.

### Super Hefty

Customised systems with increased install power and belt widths are available.

Specifications	Jiffy 75	Nifty 150	Hefty 300	Hefty 300 XL
Maximum Transport Length	9.7	11.8	8.5	8.5
Maximum Transport Width	2.7	2.9	3.0	3.0
Maximum Transport Height	1.7	2.5	2.5	2.5
Maximum Transport Weight	7,800-kg	17,000-kg	11,000-kg	11,000-kg
Number of Transport Sections (inc. Drive Units)	2	3	4	5
Maximum Installed Power	75kW	150 kW	300 kW	300 kW
Belt Speed	2.5-m/s	2.3-m/s	2.3-m/s	2.5-m/s
Belt Width*	1050-1200			
Maximum Belt Class*	Solid Woven Type 8			
Carrying Capacity*	Up to 1,200 TPH			
LTU Capacity	7.6-m	19.0-m	29.7-m	41.4-m
LTU Winch Type	Static	Live or Semi-Live		

\* Wider built widths, higher belt class, greater carry capacity can be made to order.









# Conveyor Guarding

**The NEPEAN safety guarding system was designed as a time efficient and reliable way of safely guarding hazardous areas in industrial environments. The guarding system has been developed to provide both machinery and perimeter guarding.**

The system comprises of a range of posts, rails and panels to form off the shelf systems for a wide variety of applications.

All guarding meets and exceeds AS/NZS4024.3610:2015 and AS/NZS 4024.3611:2015 (safety of machinery) and with over 30 years of experience in the mining industry, NEPEAN can provide experienced personnel to systematically audit your current guarding arrangements and provide practical advice on your level of compliance and cost-effective solutions to rectify. non-compliance issues.



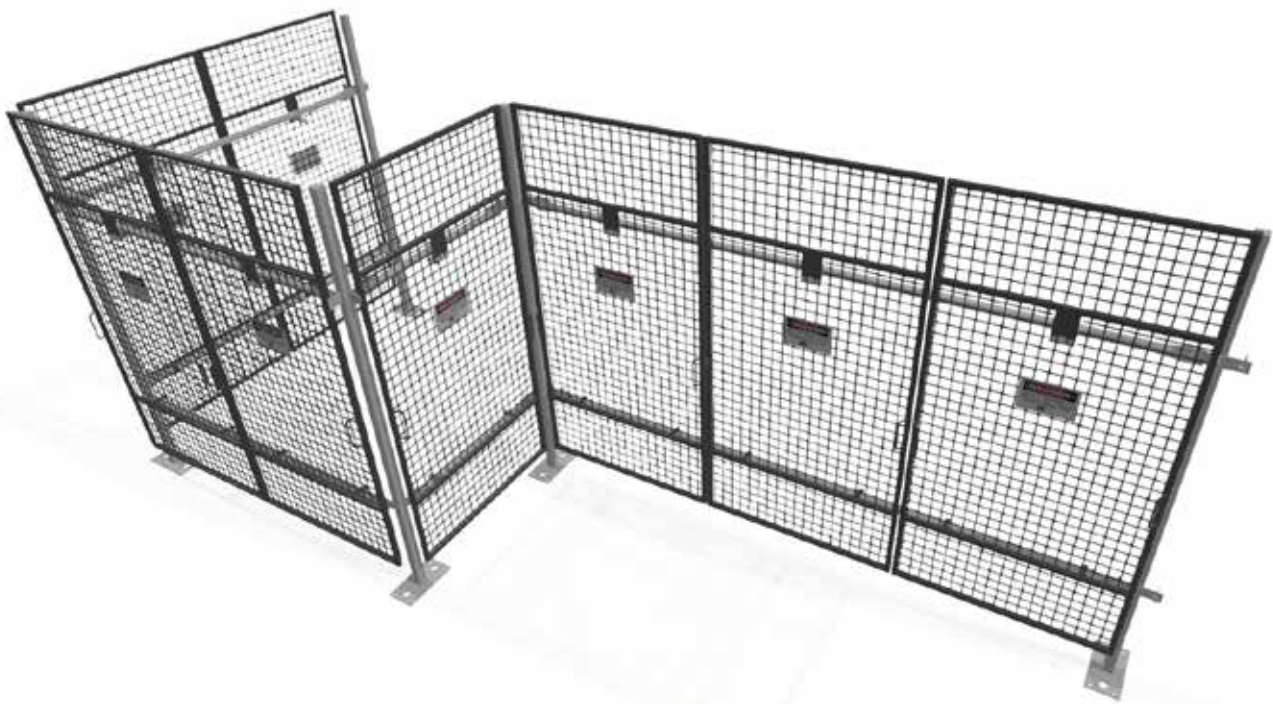
# Conveyor Guarding

## Features and Benefits

NEPEAN Guards come in two standard widths and a variety of heights. They arrange in either 1, 2 or 3 panel configurations. Each guarding system can be either machine mounted or free standing.

The innovative “Hook and Lock” boltless attachment system allows for efficient assembly and disassembly in all maintenance and installation situations. The purpose designed and built latches are all constructed from corrosive resistant stainless steel with the panels and rails all made from DuraGal material.

Guard panels are then powder coated black for underground environments and yellow for surface requirements. Other colours are available upon request.



Example of 3 panel arrangements in a larger guarding system



# Conveyor Guarding

## Installation

The NEPEAN guarding system is lightweight, maneuverable and completely boltless - which allows the latch system to locate itself on the rails. This results in extremely quick installation times and drastically reduced downtime during scheduled maintenance or repairs. Through selecting the correct combination of panels and posts NEPEAN can provide safety guarding to suit all installation requirements.



# Conveyor Guarding

## How it works

The NEPEAN guarding system is extremely straight forward to install. Posts are placed in the designed location. The pipe rails required for the panel arrangement are then inserted over captive anti-loose fasteners.

A tap of a hammer at each end of the pipe rails and they are now secured. Panels then “Hook” over the rails and “Lock” into place with the turn of a latch. This process takes less then a few minutes and can be accomplished by all personnel – regardless of experience.



## Support and Capabilities

NEPEAN has a dedicated team of experienced professionals who can assist with all manner of guarding arrangements – including all custom and specialised requirements.

NEPEAN can provide guarding solutions for a wide variety of industries such as:

- ◆ Underground mining
- ◆ Overland mining applications – transport conveyors, stockpile, barge and truck loading facilities
- ◆ Ports
- ◆ Quarries

NEPEAN stocks all standard guarding components, allowing for a quick turnaround on all orders.

With offices strategically located around Australia all custom requirements can also be met in short time frames.

# Conveyor Guarding

## Ordering

Feel free to call +61 2 4267 6767 to discuss your requirements directly or make use of the below information to select the items you require and then call or email: [conveyors@nepean.com](mailto:conveyors@nepean.com)

## Guard Panels

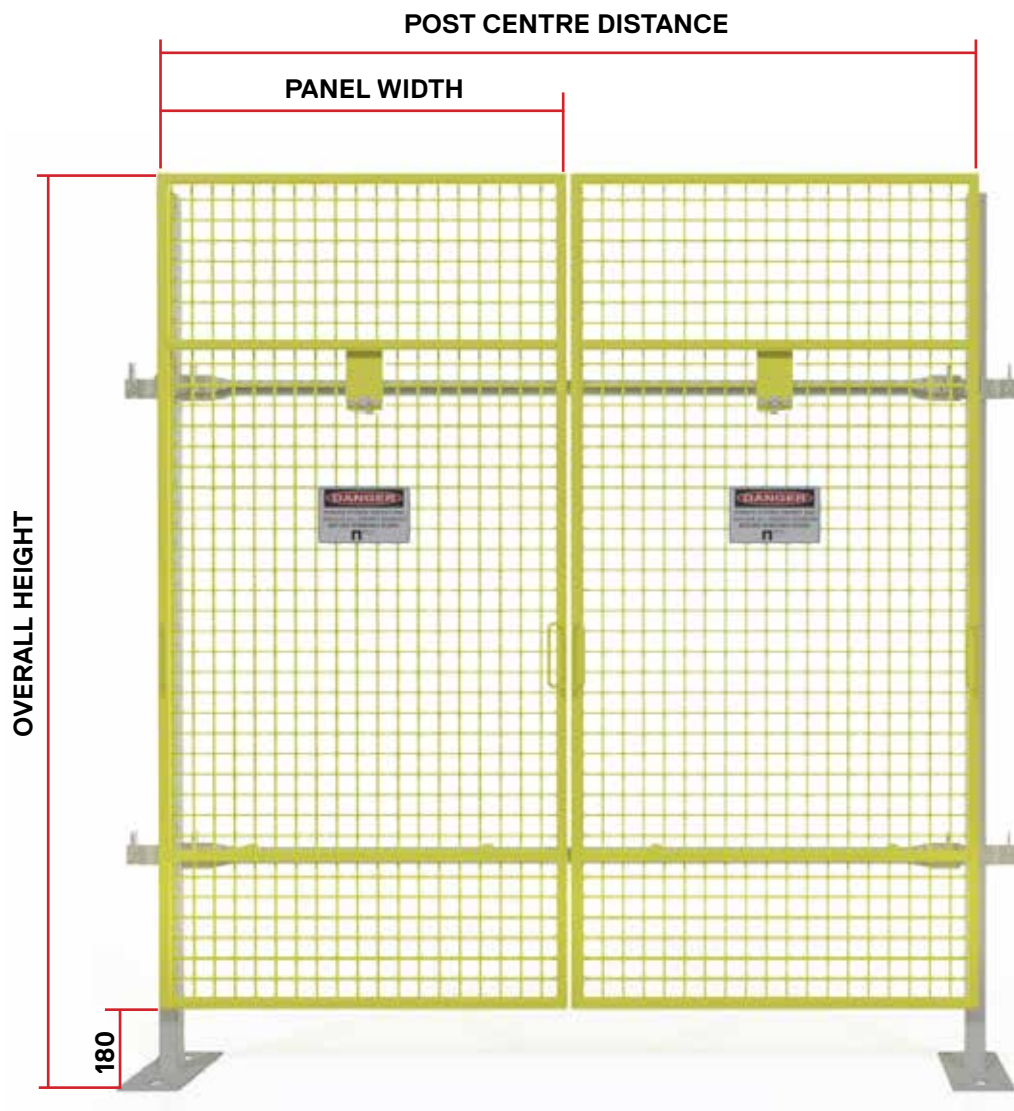


Figure 3 - Example of a 2-panel configuration. Mark-ups indicate how to identify the part that you require.



# Conveyor Guarding

GUARD PANELS						
	Overall Height (mm)					
		1800	2000	2200	2400	2800
Panel Width (mm)	990	STD-0201-160	STD-0201-180	STD-0201-200	STD-0201-220	STD-0201-240
	1115	STD-0202-160	STD-0202-180	STD-0202-200	STD-0202-220	STD-0202-240

POST CENTRE DISTANCE (mm)			
		Panel Width (mm)	
		990	1115
Configuration	Single Panel	1000	1125
	Double Panel	2000	2250
	Triple Panel	3000	3375

## Guard Posts



Figure 4 - Standard Guard Post



Figure 5 - Internal Corner Post



FIXED POSTS						
		Guard Overall Height as per Figure 3 (mm)				
		1800	2000	2200	2400	2800
Type	Standard	STD-0203-160	STD-0203-180	STD-0203-200	STD-0203-220	STD-0203-240
	External Corner	STD-0204-160	STD-0204-180	STD-0204-200	STD-0204-220	STD-0204-240
	Internal Corner	STD-0205-160	STD-0205-180	STD-0205-200	STD-0205-220	STD-0205-240
	End Post LH	STD-0206-160	STD-0206-180	STD-0206-200	STD-0206-220	STD-0206-240
	End Post RH	STD-0206-160B	STD-0206-180B	STD-0206-200B	STD-0206-220B	STD-0206-240B

# Conveyor Guarding

## Ordering

### Pipe Rails

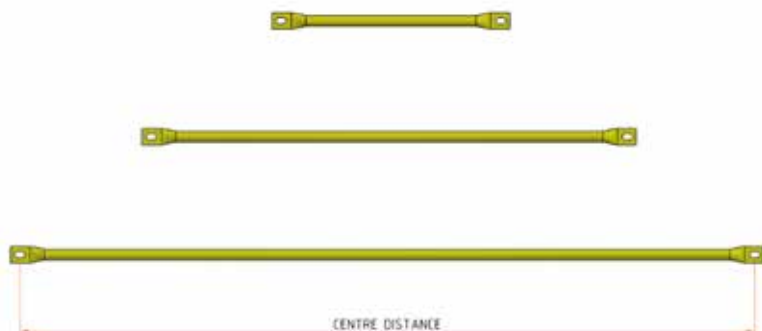


Figure 6 - 1, 2 and 3 panel pipe rails

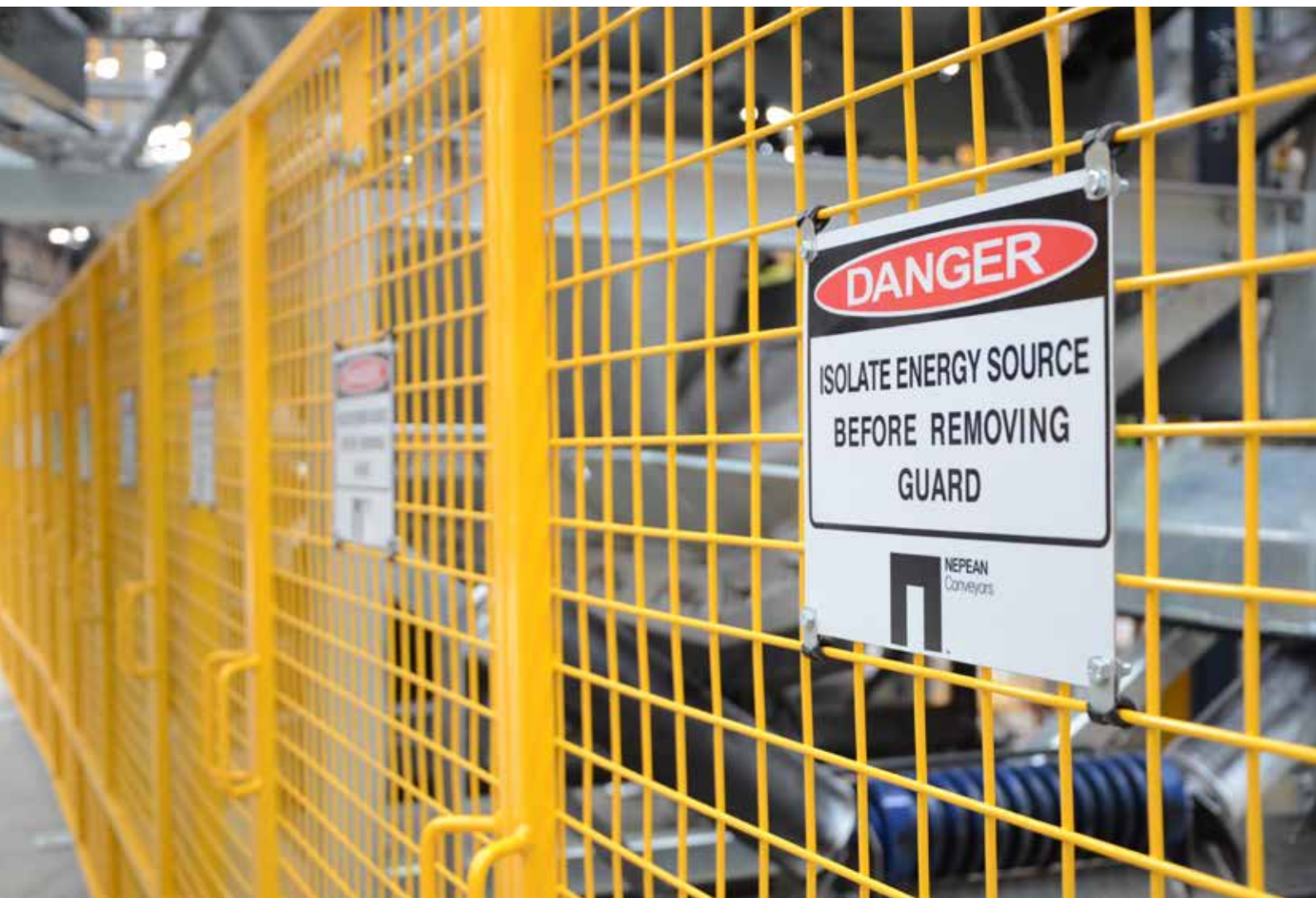


Figure 7 - Example of 2 panel pipe rail system set up

Description	Centre Distance (mm)	Part Number
1 Panel Rail	850	STD-0210-085
2 Panel Rail	1850	STD-0210-185
3 Panel Rail	2850	STD-0210-285



# Conveyor Guarding









# Dewatering Systems



## **NEPEAN Conveyors has been involved in dewatering systems for more than 15 years.**

- ◆ Historically, dewatering systems were limited to inline trippers and transfer spoon installations using a fine aperture stainless steel dewatering screen above the impact point.
- ◆ Additions to underground hood and spoon transfers now can include finestay and stop start chute dewatering facilities.
- ◆ Recent trials performed for patented “Tsunami” dewatering facility development.

## **Dewatering Solutions**

### **Conveyor Dewatering Systems for Mining**

Excessive water on conveyor systems can lead to a number of issues including uncontrolled material movement, slough back and spillage, as well as material degradation. These issues often result in unplanned downtime and additional costs due to clean-up, equipment damage and corrosion.

Our versatile dewatering systems are typically installed at transfers or trippers and onto operating conveyors with minimal downtime. We also have the ability to custom design a solution if required to resolve your unique dewatering challenges.

### **NEPEAN’s range of underground mine dewatering equipment is designed with the aim to:**

- ◆ Eliminate excess water in material transport systems, particularly where it is causing problems on steep drift conveyor belts or in underground storage bins.

### **Belt Conveyor Dewatering Systems**

When material has been transported any distance on a belt conveyor it stratifies with the larger lump content on the top and the slimes and water on the bottom.

A dewatering screen can be installed at a suitable conveyor transfer point or a tripper can be introduced to feed the screen anywhere along a trunk conveyor.

When the material leaves the delivery jib or tripper pulley, the larger lump content, being on top and having more mass, describes a larger trajectory whilst the slimes and water fall short. The bulk of the material continues its journey along an armoured chute whilst the slimes and water are removed by a sieve bend with the oversize also going back onto the belt.



# Belt Cleaners

**NEPEAN Conveyors has a range of belt cleaners and consumable wear products that are cost effective, longer lasting and exceed Australian Standards. ONE Industries, belt cleaning solutions are compatible with alternative products on the market and are manufactured to the highest quality.**

## Primary Belt Cleaners

- ♦ Standard belt widths 900mm to 2400mm
- ♦ Robust stainless steel construction
- ♦ Available in spring or air tensioned
- ♦ Custom designs, blades and sizes available
- ♦ Interchangeable with other primary cleaner systems



## Primary Cleaner Blades

- ♦ Long life urethane used in surface applications
- ♦ Excellent abrasion resistance
- ♦ Excellent even wear properties
- ♦ Easy to remove using ONE Industries removal system



## Primary XHD FRAS Polyurethane

- ♦ Underground compliant FRAS MDG3608
- ♦ Excellent abrasion resistance properties
- ♦ Blades promote even wear
- ♦ Easy to remove using ONE Industries removal system



## Primary ONELINE Polyurethane

- ♦ Surface and underground compliant FRAS MDG3608 available
- ♦ Excellent abrasion resistance properties
- ♦ Easy to remove using ONE Industries removal system



## Primary ONETRACK Polyurethane

- ♦ Surface and underground compliant FRAS MDG3608 available
- ♦ Excellent abrasion resistance properties
- ♦ Highest quality



**Many other primary scrapers available.**

# Belt Cleaners

## Primary Cleaner Blades

- ◆ Primary cleaners that have excellent abrasion resistance
- ◆ Excellent cleaning efficiency
- ◆ Longer lasting promoting even wear



## Primary Cleaner Blades Compliance

- ◆ Underground belt cleaners exceed requirements of AS4606-2012
- ◆ All cleaners have full traceability by batch numbering system
- ◆ Belt cleaners are checked for quality in accordance with ISO:9001



**Exclusive Distributors of ONE Industries**

# Belt Cleaners

## Secondary Belt Cleaners

- ♦ Standard belt widths 900mm to 2400mm
- ♦ Robust stainless steel construction
- ♦ Available in spring or air tensioned
- ♦ Custom designs, blades and sizes available
- ♦ Interchangeable with other secondary cleaner systems



## Secondary 2.0 ONELINE Polyurethane

- ♦ Surface and underground compliant FRAS MDG3608 available
- ♦ Excellent abrasion resistance properties
- ♦ Highest quality



## Secondary 2.0 ONELINE Toolsteel

- ♦ Surface and underground compliant FRAS MDG3608 available
- ♦ Excellent wear resistance properties
- ♦ Easy to remove using our removal shoulder



## Secondary 2.0 ONELINE Tungsten

- ♦ Surface and underground compliant FRAS MDG3608 available
- ♦ Excellent wear resistance properties
- ♦ Long lasting cleaner used on vulcanised belts



## 2 x New Innovative Concept Secondary Cleaners

- ♦ Innovative and new to market
- ♦ Patent product
- ♦ Superior conveyor cleaning capability
- ♦ Designed with all conditions in mind



# Belt Cleaners

## Return Conveyor Ploughs

- ◆ Standard belt widths 900mm to 2400mm
- ◆ Robust stainless steel construction
- ◆ Available in standard polyurethane or MDG3608 FRAS
- ◆ Custom designs, blades and sizes available
- ◆ Interchangeable with other plough systems



## Floating V Plough

- ◆ Surface and underground compliant FRAS MDG3608 available
- ◆ Excellent wear resistance properties
- ◆ Highest quality



## Torsion V Plough

- ◆ Surface and underground compliant FRAS MDG3608 available
- ◆ Standard and heavy duty available
- ◆ Stainless steel construction
- ◆ Compatible with others on the market



## Floating Diagonal Plough

- ◆ Surface and underground compliant FRAS MDG3608 available
- ◆ Excellent wear resistance properties
- ◆ Long lasting cleaner used on vulcanised belts



## New Concept Return Plough

- ◆ Innovative and new to market
- ◆ Patent product
- ◆ Different to any other on the market

# Belt Cleaners

## Conveyor Skirting

- ♦ Polyurethane standard /FRAS available
- ♦ Natural rubber/FRAS available
- ♦ Custom shapes, designs, sizes available
- ♦ Different hardness, available



## Polyurethane Skirting

- ♦ Surface and underground compliant FRAS MDG3608 available
- ♦ Standard thicknesses 8mm, 10mm, 12mm
- ♦ Standard roll size 15 metres
- ♦ Standard 65 Shore A hardness
- ♦ Highest quality



## Natural Rubber Skirting

- ♦ Surface and underground compliant FRAS MDG3608 available
- ♦ Standard thicknesses 3mm, 9mm, 12mm, 16mm, 19mm
- ♦ Standard roll lengths 15 metres and 30 metres
- ♦ Standard 65 Shore A hardness
- ♦ Highest quality



## Duel Lipped Rubber and Polyurethane Skirting

- ♦ Surface and underground compliant FRAS MDG3608 available
- ♦ Standard sizes



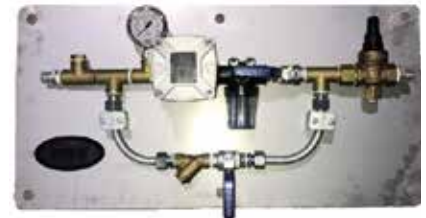
## Custom Cut Rubber and Polyurethane

- ♦ Variety of blends

# Belt Cleaners

## Water Control and Dust Suppression

- ◆ Water control boards and boxes
- ◆ Sprays and dust suppression applications
- ◆ Ultrasonic dust suppression versions available



## Water Control Units

- ◆ Standard back boards or boxes available
- ◆ Standard/bypass and different filter combinations
- ◆ Underground compliant solenoid and transducers available
- ◆ Custom versions to suit customer requirements



## Spray Bars

- ◆ Standard sizes to suit belt widths 900mm to 2400mm
- ◆ Stainless steel construction
- ◆ Range of spray sizes/misting sprays available
- ◆ Custom versions to suit customer requirements



## Filters and Replacement Sprays

- ◆ Stainless/brass and plastic filters
- ◆ Sizes from 100 micron
- ◆ Fabric and stainless steel filter versions

## Ultrasonic Atomising Nozzles

- ◆ Variety of sizes
- ◆ Air and water





# Belt Cleaners



## Polyurethane Materials Screening

- ♦ Long life/high wear resistance properties
- ♦ Different grades and harnesses available
- ♦ Highest quality raw materials used
- ♦ Custom designs available

## Tensioned and Skeleton Screens

- ♦ High wear resistance materials
- ♦ Long service life
- ♦ Custom sizes and designs
- ♦ Range of aperture sizes available

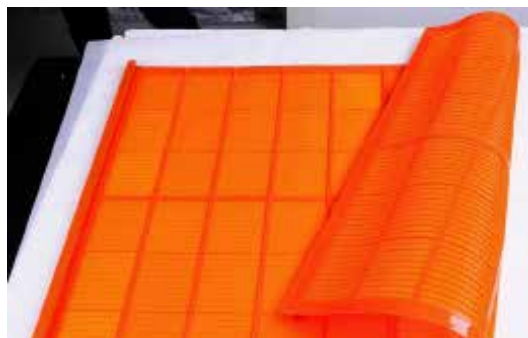


## Polyurethane Dewatering

- ♦ Polyurethane and inner steel frame
- ♦ Light weight
- ♦ Modular construction
- ♦ High wear resistance properties

## High Frequency Screens

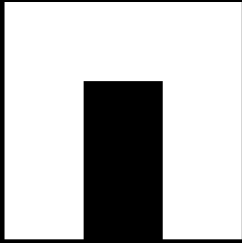
- ♦ Strong resilient material
- ♦ Light weight
- ♦ High wear resistance properties
- ♦ Range of aperture sizes available











**NEPEAN**  
Conveyors

TM

# System Components



**1800 NEPEAN**  
**[www.nepeanconveyors.com](http://www.nepeanconveyors.com)**



# Transfer Stations

**NEPEAN Conveyors designs and manufactures world-class transfer stations to meet our customers' unique and specific project requirements. NEPEAN Conveyors has built extensive experience relating to surface and underground applications with our customers gaining the benefit of our vast knowledge and performance driven culture.**

NEPEAN Conveyors' transfer stations are designed to reduce belt wear, material degradation, dust emissions and improve material flow behaviour. Using DEM software, dynamic simulations test the material flow through the transfer to optimise every design.

NEPEAN Conveyors - adopt a transfer station style appropriate to the site, project and customer-specific requirements. We offer many purpose-designed transfer technologies in both the surface and underground environments including:

- ♦ **Transfer towers**
- ♦ **Splitter/diverter transfer stations**
- ♦ **Tripper sizer stations**
- ♦ **Tripper transfer drive stations**
- ♦ **Travelling tripper stations**
- ♦ **Hopper to feeder transfer**

Primarily in an underground environment NEPEAN Conveyors' modular jib frame designs allow for efficient transportation and installation of the transfer assembly.

**The two main options are:**

## **Floor mounted**

Floor mounted jibs are the quickest and safest modular designs in the marketplace. NEPEAN Conveyors design and supply self-erecting jib assemblies to reduce transportation time and offer the quickest and safest installation.

## **Roof mounted**

Where floor heave is an issue or real estate under the transfer point is limited, roof mounted jibs offer an effective solution. Dead beetles fabricated to roof contours can be used to dramatically improve install time and accuracy.

The key ingredient to a successful transfer station is the careful adaptation of the chute design to the material flow process. NEPEAN Conveyors, through our history

in-house expertise in chute design and manufacturer to meet any requirement.

NEPEAN Conveyors investigates a large variety of wear surface materials and wear liners which are available to suit specific applications and product materials.



# Transfer Chutes

**Some common styles of transfer chutes include:**

## **Hood and Spoon Chutes**

NEPEAN Conveyors' soft loading hood and spoon style transfer chutes are modelled and designed to improve flow whilst reducing wear to chute liners and receiving conveyor belt covers.

Fully adjustable designs optimise flow characteristics with multi-directional and multi-speed chutes. Our chutes are open in design to eliminate blockage from foreign objects. Dewatering facilities can be included in the fines tray and/or the spoon chute.

## **Inline Chutes**

Technically a "ski jump" in design, NEPEAN Conveyors' inline chutes are fitted with soft loading facilities. Our inline transfers are adaptable to tramp iron magnet - installations, dewatering and tripper/booster drive applications.

## **Rock Box**

Often used to benefit hard rock mining, rock box transfers are suited to dry, abrasive and lumpy material. Designed so the material fills a ledge or several ledges, creating a wear surface and providing an ideal impact plate as the two materials have equal properties. Rock box transfers are avoided if the material is fine, wet or sticky.



### **Benefits of all NEPEAN Conveyors designs:**

#### **Flexibility**

Chutes are fully adjustable to permit fine tuning and incorporates independent components to provide greater flexibility.

#### **Fully Customisable**

- Integrated or removable wear liners
- Stainless or mild steel construction
- Painted or galvanised finish
- Available with or without primary and/or secondary dewatering screens

# Conveyor Drives

**NEPEAN Conveyors remains at the forefront of design and manufacture of power systems for conveyors which are tailored to our customer's specific needs. With decades of experience with all types of drive systems, NEPEAN Conveyors delivers solutions designed to facilitate our customers' commercial success.**

Tough Australian conditions have been our training ground and our knowledge and experience is reflected in the conveyor drive technologies we deliver today.

Our engineering team understands the nature of conveyor system dynamics in mining applications - this is crucial in applying the right drive technology for each individual project.

**NEPEAN Conveyors have technical experience with all types of drive systems commonly used in the mining industry.**

**Some common drive types include:**

## **VVVF – Variable Voltage Variable Frequency**

NEPEAN Conveyors, in association with NEPEAN Power, are able to offer the most advanced, high tech VVVF conveyor drive systems.

NEPEAN Conveyors is proud to have pioneered this drive technology in the underground mining sector, with over 200MW of installed equipment to date. With unparalleled acceleration control and drive load sharing, adjustable speed facilities and the ability to perform braking from the drive unit, VVVF drive technology is the preferred drive choice of our major customers.

## **CST – Controlled Start Transmission**

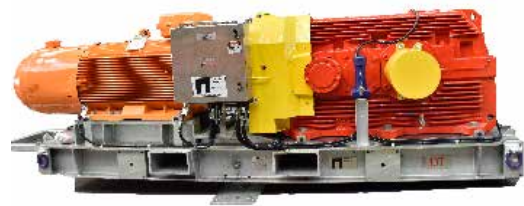
NEPEAN Conveyors offers experience and knowledge in the design and operation of CST drives and refurbishment to stringent OEM controls. Trialled, tested and proven since 1993, CST drives are a reliable mechanical solution for conveyor control and have been adopted globally.

For more demanding situations, NEPEAN Conveyors can provide variable filled drive solutions with control functionality equal to CST and VVVF drive systems.

## **Fluid Couplings**

NEPEAN Conveyors understands the importance of delivering solutions with capital and operating costs in mind.

When conveyor dynamics permit, constant filled fluid coupling drives are a cost effective option.





# Belt Storage Unit & Loop Take-Up Systems

**NEPEAN Conveyors is the industry leader in underground rapid advance - rapid retreat Belt Conveyor Storage Units and Loop Take-Up Systems. The innovative NEPEAN Conveyors' 'S-Beam' railbay technology allows us to better serve industry specific needs and keep ahead of trends in underground coal and precious metals mining techniques.**

Our reputation has been built on excellence in design, service and support of conveyor LTU, Belt Storage Units and Constant Tension Winches.

See why most Australian underground mines have invested in NEPEAN LTU equipment. Attention to detail sets our designs apart.

**NEPEAN Conveyors market leading S-Beam design provides trouble free operation available in our unique Rapid Advance/Rapid Retreat Loop Take Up Systems:**

## Features:

- ◆ S-Beam design – improved access to carriage and belt separators, self-shedding of fines build-up and stackable for transport
- ◆ Access to servicable components
- ◆ Inbuilt tracking system allows for trouble free operation of advancing or retracting conveyor systems
- ◆ 'Live' belt storage capacity
- ◆ Additional capacity to remove belt stretch on long centred conveyors
- ◆ Rapid removal of belt when used in conjunction with a belt reeler

NEPEAN Conveyors can design belt storage systems to suit any conveyor application, for any belt width, with any storage capacity.

## Options Available:

- ◆ On board telemetry including: bearing monitoring, belt tracking, vibration monitoring
- ◆ Liveshaft or deadshaft pulleys
- ◆ Belt clamps
- ◆ Integrated winch
- ◆ Galvanised or painted
- ◆ Driven or dynamically braked belt storage units
- ◆ Custom solutions eg. tunnelling conveyors

## Transport

Transport is simplified with fork tyne pockets and stackable railbays.

## Faster Installation

Locating pins and modular guarding systems allow rapid installation and decommissioning.



Model	Live Storage Capacity
BS2	10-40m
BS4	40-100m
BS6	100-300m +









# Tripper Drives

**Higher production demands more power - NEPEAN Conveyors designs and manufactures tripper drive systems tailored to our customers' specific needs. NEPEAN Conveyors have the knowledge and experience with tripper drive technology and we provide accurate and trustworthy advice to the world's largest mining companies.**

NEPEAN Conveyors has managed large scale, high production tripper/booster conveyor installations that has resulting in the accumulation of a wealth of live data enabling us to implement and accurately control and operate complex conveyor systems.

In association with NEPEAN Power our tripper drives are able to seamlessly communicate with the host drivehead, regardless of the drive technology employed.

NEPEAN Conveyors engage the latest technology and software to analyse conveyor systems during design to ensure the location of the equipment is optimised. We are experts at understanding the principles of load sharing through tension control and use this to maximise the productivity of every system.

## Expertise in Engineering Design

By utilising advanced software such as DEM and FEA analysis NEPEAN Conveyors accurately predict the flow behaviours of the material at time of concept, ensuring smooth transition of the material burden.

## Dewatering and Magnet Options

NEPEAN Conveyors, dewatering stations can be designed as powered or non-powered trippers. NEPEAN Conveyors offers various primary and/or secondary dewatering options to remove excess water from the conveyed product.

Magnet stations can also be adopted to provide further belt protection at the tripper station.

## Braking Trippers

Mechanical and electrical braking systems are part of our speciality. NEPEAN Conveyors have supplied into the industry numerous solutions where braking has been provided at the tripper station, and we are the industry leader in this field.

NEPEAN Conveyors always aims to provide the safest and most innovative engineering solution, which may be a combination of mechanical and electrical brakes in some of the most complicated regenerative power conveyor system scenarios.



# Winches

**As overland and underground conveyor systems become longer and more powerful, NEPEAN Conveyors has developed in-house winch technology for belt conveyor loop take-up systems to meet these demands. Our global customers demand winch technology that is reliable and high performing even in the face of increased operating tensions.**

There is no tougher environment than when you are 2500m underground – NEPEAN Conveyors' winches are designed to operate in the harshest mining environments. They offer operational advantages over gravity take-up systems and are designed with complete conveyor system performance in mind.

## **A Full Range Of Proven Designs:**

### **Eddy Current Winch**

- ◆ Simple, reliable design
- ◆ Flameproof or minimum IP55 design
- ◆ Linear control response
- ◆ The most cost effective winch type on the market  
55kW or 110kW

### **Hydraulic Winch**

- ◆ Fast response
- ◆ Flameproof or minimum IP55 design
- ◆ No controller required
- ◆ Direct hydraulic winch to 75kW

### **VVVF Winch**

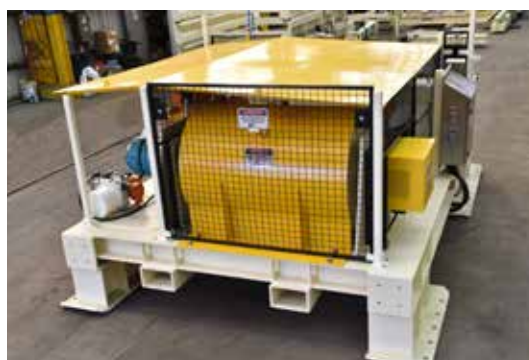
- ◆ Unrivalled accuracy and response
- ◆ Mechanically simple design
- ◆ Complete range of diagnostic tools
- ◆ VVVF winches up to 110kW

### **Gravity Take-Up**

- ◆ Simple and reliable
- ◆ True T2 constant tension
- ◆ Underground designs available
- ◆ Can be used in conjunction with constant tension winch for difficult overland or drift conveyor applications

### **Electro-Mechanical Winches**

- ◆ Ideal for servicing GTU counterweights or for non-live applications



All winches are designed to operate in the harshest mining environments and feature minimum IP55 rating for electrical equipment and devices. NEPEAN Conveyors' winches are designed with complete conveyor system performance in mind and to suit specific client requirements.

# Belt Maintenance Equipment

**NEPEAN Conveyors designs and manufactures world-class belt maintenance equipment which can be tailored to our customers' specific needs. Our customers benefit from safe, efficient and time-saving belt maintenance to ensure their production targets are met.**

NEPEAN Conveyors reelers' belt clamping and splice table systems are proven to reduce conveyor downtime when used in conjunction with our belt storage units and constant tension winches.

NEPEAN Conveyors can adopt a style of belt maintenance system appropriate to project budget and requirements.

## **Common styles include:**

### **Universal Belt Reeler**

NEPEAN Conveyors' universal belt reeler combines hydraulically activated belt clamps and pinch rollers to manipulate the conveyor belt onto the splice deck or built-in belt reeler. The universal belt reeler is a cost effective solution for development conveyors.

### **Slew Reeler**

The slew reeler provides safe and efficient belt change out in advancing/retreating conveyor systems. The slew reeler not only winds the belt on square and true, with near 360 degree slew capability, but also delivers full 250m rolls of belt perpendicular to the beltline for fast replacement that severely reduces downtime so production can resume sooner.

### **A-Frame Belt Reeler**

Designed to cater for installations of heavy conveyor belts, long centred overland conveyors, decline and yard conveyors. The A-frame belt reeler is also suited for use with racetrack reels. The A-frame reeler can be either powered or un-powered depending on the application.

### **Pinch Roller**

NEPEAN Conveyors' pinch roller is designed to eliminate manual operator handling when used in conjunction with our belt storage system, slew reeler, and belt clamp systems.

### **Electro-Hydraulic Power Packs**

NEPEAN Conveyors' power packs provide reliable and safe hydraulic power and flow to all of the belt maintenance equipment. NEPEAN Conveyors, hydraulic power packs are individually engineered to provide an ergonomic, central control station such that a single operator can control the entire process.

### **Belt Clamps**

Manual, hydraulic or spring-operated, with safety in mind, NEPEAN Conveyors, belt clamps feature limit switches, preventing conveyor start when clamps are not fully released. Power is supplied by electro-hydraulic units or self-contained hand pumps.

### **Splicing Stations**

NEPEAN Conveyors' work platforms are designed and manufactured to suit splicing patterns in accordance with each system's conveyor belt.



**Slew Winder**



**Pinch Roller**



**Winder Hydraulic Powerpack**



# Conveyor Boot Ends/Tail Ends

**NEPEAN Conveyors has built technical credibility and design capability in Conveyor Boot End design and manufacturing. Proven to be clean, safe and productive, NEPEAN Conveyors' Boot Ends are designed and manufactured to our customers' application requirements.**

Tough Australian conditions have been our training ground - knowledge and experience is reflected in the conveyor boot end designs and manufacturing standard we deliver today.

Our engineering team understands the nature of conveyor system dynamics in mining applications which is crucial in applying the most efficient design for each individual project.

NEPEAN Conveyors has the technical experience with all types of boot end systems commonly used in the mining industry.

## **A full range of proven designs:**

### **Underground Boot Ends**

Robust, clean-loading inbye terminal points for development conveyors that are shuttle-car and feeder-breaker friendly.

Low load height accommodates more load options - and the roundbar design is safe, maintenance free and protects conveyor belt covers.

Simple, strong inbye anchor points for trunk and drifts conveyors. Guarded to AS4024, the compact boot end frame design allows for rapid relocation inbye, saving downtime.

### **Boot End features include:**

- ♦ Relocatable skid base
- ♦ Round bar or impact idler loading facility
- ♦ Heavy duty pulley protection cover
- ♦ Tensionable option available

### **Braking Tail Frames**

Coupled with high torque hydraulic braking systems, braking tail frames provide complete control of downhill and regenerative conveyor systems.

Tail frame braking protects the LTU from the large braking belt tensions. Braking tail frames are capable of producing up to 1200kW of braking power and can be combined with braking trippers to safely and accurately brake any downhill conveyor system.



**Load station**



**Boot end**



**Tail frame**





# Service & Support



**1800 NEPEAN**  
**[www.nepeanconveyors.com](http://www.nepeanconveyors.com)**



# Refurbishment

**NEPEAN Conveyors have grown the business by forming long term partnerships with large global mining companies for the life cycle management and maintenance of their material handling systems. NEPEAN Conveyors offers complete life cycle management, maintenance and support services to the mining and resource sector.**

## Overhaul and Asset Optimisation

NEPEAN Conveyors understands the importance of plant efficiency, especially in a mining environment. Regular overhaul of system components is a sustainable measure to ensure conveyors have maximum availability and prolonged service life.

NEPEAN Conveyors can provide asset optimisation solutions for components and systems as part of their overhaul process. This service can provide a modernised solution at a fraction of the replacement cost.

With facilities conveniently located in close proximity to Australia's premier mining regions, our teams of experienced professionals are available to deliver prompt, efficient and reliable service to the world's largest mining companies.

## Lifecycle Management

NEPEAN Conveyors work to optimise the life-cycle performance and availability of their material handling systems. NEPEAN Conveyors achieve this by working closely with clients to provide customised solutions tailored to their market requirements.

## Spares and Storage

NEPEAN Conveyors supports our standard product range by carrying critical spares, wear spares and exchange units.

**We aim to minimise unplanned and planned down time replacing components in your systems with our same day/overnight service for replacement and exchange parts.**

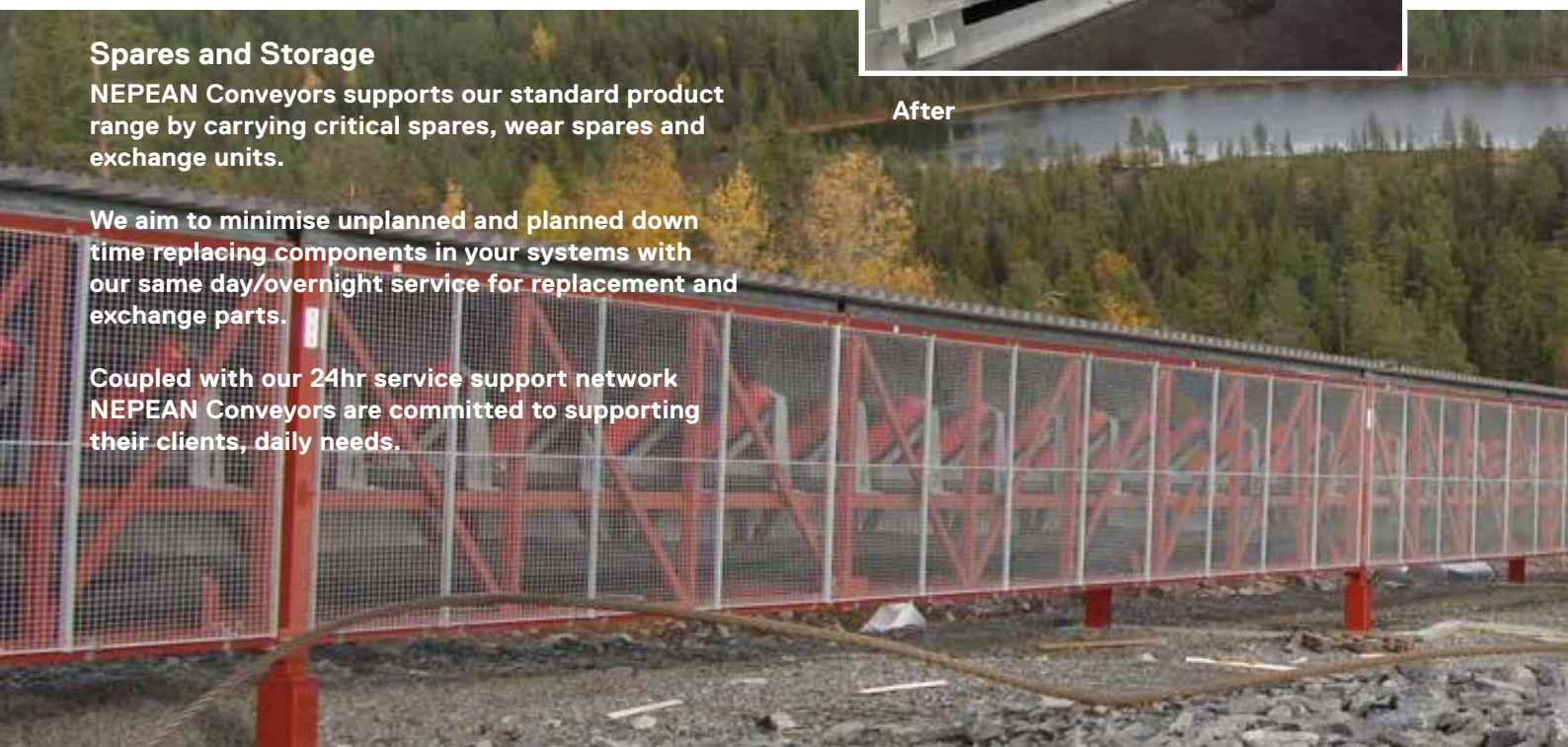
**Coupled with our 24hr service support network NEPEAN Conveyors are committed to supporting their clients, daily needs.**



**Before**



**After**



**Innovation . Dedication . Specialisation**

# Service & Support

**NEPEAN Conveyors has a proven track record in providing total life cycle service and support for our OEM equipment and that's manufactured by others.**

## **Technical expertise**

With experience designing and manufacturing large scale conveyor projects since 1985, NEPEAN has a broad range of experience and expertise which enable us to take a holistic view of the conveyor system when troubleshooting or servicing the equipment.

We have the ability to draw on our vast network of technical experts in order to deliver the best solution for you and your operational needs.

## **Specialising in Overland Conveyors**

Fully integrated systems, in underground coal, iron-ore and hard-rock, ports, surface mining systems and industrial sites.

## **More Locations**

Six facilities in Australia including some of the world's most advanced, hi-tech idler and pulley manufacturing facilities.

## **Unmatched Support**

NEPEAN Conveyors has established business hubs strategically located near to the largest mining areas so we are able to best service our equipment and support our customers.

## **Conveyor Construction, Installation and Commissioning**

NEPEAN Conveyors offers full turnkey system packages complete with project management and site installation along with supervision services for installation and commissioning.



**Innovation . Dedication . Specialisation**



# Conveyor Inspections & Audits

**With over 30 years' experience designing high performance conveyors and conveyor systems, NEPEAN has built a solid reputation as the premier Belt Conveyor supplier for solving the more challenging issues faced in bulk material handling.**

Our reputation is underpinned by a highly skilled and multidisciplinary team of professionals who are experts in design and operation of conveyor systems. Our skills include mechanical, structural and civil design and we have a full drafting office capable of delivering small and large design projects from concept to detailed design.

## Audit Conveyor System

- ◆ Perform preliminary visual inspection of installation alignment/level/pulley installation/drive line alignment/horizontal and vertical curves.
- ◆ Review existing Conveyor Fault Log to ensure that information is captured accurately and with true fault identification.
- ◆ Update conveyor pulley schedule.
- ◆ Run conveyor power and tension calculations based on latest survey data.
- ◆ Check alignment and level of ROM conveyor structure.
- ◆ Down-load and review existing PLC code and map inputs/outputs.
- ◆ Record existing operating parameters, start, run, stop tensions + average power demand.
- ◆ Record conveyor unloaded stopping times.
- ◆ Record conveyor start time and review integration with other inbye and outbye conveyors.
- ◆ Measure performance of belt cleaners.
- ◆ Idler inspection and fault identification.
- ◆ Review all transfers for spillage, carry back, blockages.
- ◆ Perform DEM on obvious pain points/problem areas (at additional cost).
- ◆ Gather existing maintenance history and status.



## Audit Report

- ◆ Trend existing faults causing down time.
- ◆ Check existing equipment against results of power and tension calc's for "fit for purpose".
- ◆ Recommend system changes / upgrades determined from the audit.
- ◆ Review PLC code and recommend upgrades/changes.
- ◆ Write functional specification for Conveyors Mechanical and Electrical.
- ◆ Audit compliance to latest AS and department recommendations regarding VVVF drive installations.





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## NEPEAN CONVEYORS ARE AUSTRALIA'S MARKET LEADER

NEPEAN Conveyors is a wholly Australian owned company specialising in the design, in-house manufacture, installation and service of overland, underground and surface belt conveyor products, systems and bulk materials handling projects for over 30 years.

NEPEAN Conveyors has forged a solid reputation for robust, practical and reliable designs and quality manufactured equipment. NEPEAN Conveyors has become the leading technology provider for bulk materials handling.

## WITH MORE LOCATIONS, WE'RE NEVER FAR AWAY

NEPEAN has a unique product and service offering across its Conveyor Business Units, with strong technical and engineering capabilities developed since 1985 as well as significant local presence near its key customers.