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ROLLERS

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Introduction

Amcorp Group is the manufacturer of the Magnum Rollers, which is a registered trademark.

We manufacture and supply to a large range of industries from light to heavy industrial mining use.

Our commitment is to provide all our clients with a product that exceeds expectations and to reduce down time.

We offer short manufacturing lead times which allows our customers to have minimal disruptions to their day to day operations.

Our aim is to deliver high performance Rollers, Idlers & Conveyor Components worldwide. We have a fully operational and efficient production unit overseas with warehousing facility in India, UK, Indonesia and Australia,.

We strive to exceed our customers expectations in quality, service and innovation through continuous improvement and customer interaction.

We are proud to be a UK owned business which operations in key countries. Our rollers are manufactured under a strict controlled environment which comply with all Standards.

We have the Capacity to produce – 1000 rollers per day and can organise shipments at a very short lead time.

We follow the best manufacturing practices and Inspection Methods with 1 in every 10 rollers tested throughout the production cycle.

Our rollers adapt to any type of frame. We manufacture to suite the dimensions of your current frames by using our retrofit roller.

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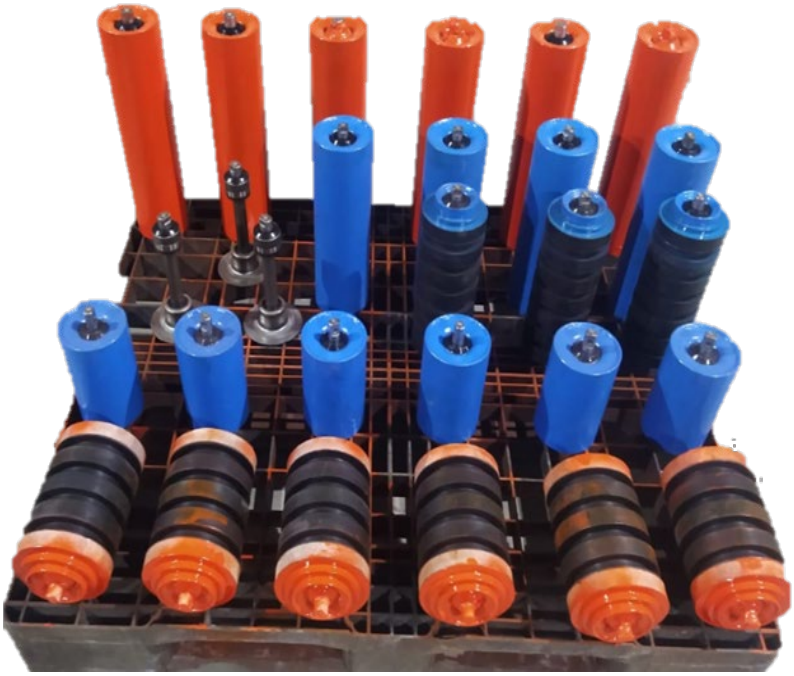
Scope of Products

Rollers:

- Aluminum, Composite & Steel
- Polyurethane Rollers
- Carry Rollers
- Return Rollers
- Impact Rollers
- Rubber Lined Rollers
- Taper Rollers
- Guide Rollers
- Garland Rollers
- Special designs - Solid bearing housings, live shaft idlers
- Shafting machined and drawn as standard
- HDPE / UHMW / NYLON Rollers
- Hollow shaft
- HDPE Sleeved
- PU & Rubber Disc Returns
- 89 to 250mm diameter
- 6204 to 6312 bearings
- Bearings - SKF, FAG, NSK or URB



Idlers:

- Equal Troughing Idlers
- Unequal Troughing Idlers
- Offset Idler / Transition Idler
- Impact Idlers
- Self-Aligning Carry Idlers
- V-Carry Frames
- V-Return Frames
- Return Brackets
- Conveyor Safety Guards

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Manufacturer of Heavy-Duty Conveyor Rollers:

- •Carrying Idlers
- •Return Idlers
- •Impact Idlers
- •Self Aligning Rollers
- •Roller Frames and Brackets

Standard Components of Rollers:

- •Roller Shell
- •Shaft
- •Bearing Housing
- •Bearings
- •Sealing Clips
- •Circlip
- •Impact Rings

Roller Shell:

Roller Shell	a) ERW (IS-1249) b) Seamless (ASTM-A106B)
Make	a) Jindal b) Tata
Tensile Strength	a) ERW – 401 b) Seamless - 415
Durability	a) ERW – 4 years b) Seamless – 5 years
Thickness	a) ERW- A,B,C b) Seamless – B & C

Shaft:

Material	Carbon Steel
Grade	a) EN-8 (BS-970) b) C 40 (IS:1570)

Bearing Housing:

CRCA Sheet	Deep drawn Quality Thickness 3mm to 6mm

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Sealing Kits:

Name	Material	Working Temp Range	Life of Material
Inner Seal Ring	PA6 (Nylon 6)	-30 °C to 223°C	3 Years
Male & Female Labyrinth Seal	POM 910% Glass fiber)	-45 °C to 130°C	3 Years
Metal Cover Seal	SPCC	-35 °C to 410°C	3 Years
Rubber Ring	NBR (Nitrile Rubber)	-35 °C to 120°C	3 Years
Protective Cover	PA6 (nylon 6)	-30 °C to 223°C	3 Years

Bearings:

Grease	Working Temperature
LGMT 2	-30 °C to 120°C
LGWA 2	-30 °C to 140°C
LGHP 2	-40 °C to 260°C

Impact Rings:

Material	Abrasion Resistant & Fire Retardant Rubber
Hardness	75-80 Shore A
Durability	2 Years
TIR	Less than 1mm at roller ends
Temp Range	Up to 150 °C

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Composite Rollers

- ✓ Up to five times longer operational life over steel rolls
- ✓ Excellent abrasion resistance
- ✓ Non-corrosive
- ✓ Minimal Vibration
- ✓ Watertight sealing arrangement
- ✓ Substantial reduction in system power requirements
- ✓ Does not causing damage to the belt by “pizza wheeling”
- ✓ Average 10dB drop in sound emissions over steel rolls
- ✓ Can be installed in almost any application where steel rollers are used
- ✓ Longevity of composite rolls will dramatically improve conveyor uptime and productivity
- ✓ Smart component configuration has improved overall operational performance over competitive rolls
- ✓ Extends the lifespan of bearings
- ✓ Performs well in harsh weather and extreme applications
- ✓ No risk of end cap separation/failure
- ✓ Tubing machine finished, near perfect TIR <0.3mm
- ✓ Anti-Acidic / Anti-Alkaline / Anti-Static
- ✓ Higher accuracy in Dynamic Balancing
- ✓ Suitable for High Humidity and High Pollution Environments

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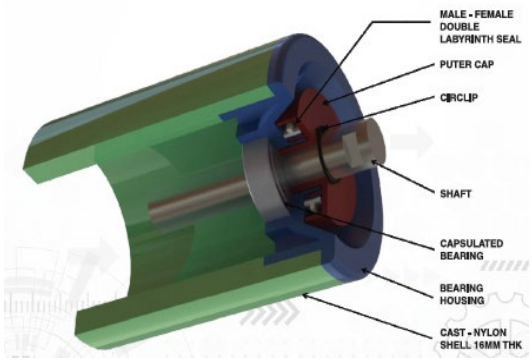
ROLLERS

Composite Rollers

- ✓ Weight reduction up to 60% of a steel roller
- ✓ Lower roll maintenance requirements
- ✓ Lighter weight construction will reduce the potential for lifting (back) and pinch point injuries
- ✓ Fire Resistance & Anti-Static Compliance for use in underground applications
- ✓ Smart design reduces heat build-up and friction
- ✓ No injuries as there are no occurrence of “pizza wheeling”
- ✓ Reduction in work related injuries
- ✓ Reduction in cost of spares
- ✓ Reduction in conveyor damage and downtime
- ✓ Reduction in labour costs
- ✓ Energy Efficient - Electricity usage savings
- ✓ Reduction in noise violations
- ✓ Economical option as it Reduces Total Cost of Ownership
  - Power Saving
  - Lowers maintenance costs
  - Low probability of roller failures
  - Greater Productivity due to lesser down time



PROPERTIES OF NYLON ROLLERS :

MECHANICAL

Property	Test Method	Unit	NYLON
Tensile Strenght 23°c	ASTM D 638	kgf/ cm2	840-980
Modulus of Elasticity 23°c	ASTM D 638	kgf/ cm2	24600-31600
Hardness Durometer 23°c	ASTM D 785		D80 to D85
Flexural Strength 23°c	ASTM D 790	kgf/ cm2	1050-1100
Deformation under Load (140kgf/ cm2 at 50°C)	ASTM D 621	%	05.-1.0 (after 24 hrs)
Impact Strength (Lzod) 23°C	ASTM D 256	kgf/ cm2 of notch	5.4
Specific Gravity			1.15-1.16
Water absorption 24 hours	ASTM D 570	%	08.-1.14

THERMAL

Property	Test Method	Unit	NYLON
Melting Point	ASTM D 789	Degree C	220/225
Deflection Temperature 4.6 kgf/ cm2	ASTM D 648	Degree C	155-165
Thermal Coefficient of liner thermal expansion	ASTM D 696	mm/mm oC	6.5x10.5 Self extinguishing

ELECTRICAL

Property	Test Method	Unit	NYLON
Dissipation factor 50-166 Hz (C/sec)	ASTM D 150		0.02
Dielectric Strength short term 0.5mm thick	ASTM D 149	KV/mm	>20
Volume resistivity	ASTM D 257	Ohm/cm	>10 12

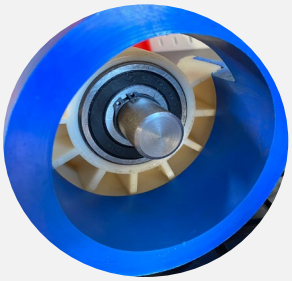
Name Of Tests	Unit of Measure	Derived Results	Test Method
Surface Resistivity	Ohms / Square	$1x10^{9}$	ASTM D 257
Flammability	Ohms / Square	Confirms to V_0 Rating	UL-94

TESTING AND INSPECTION

We pride ourselves on extensive and thorough inspections of our products. Inspections are carried out at every stage of manufacturing, ensuring accuracy, precision and all standards are met as per requirements.

The process of inspection is standardized within our manufacturing plant, to ensure that every roller has the same rigorous testing and meets all set standards. These checks are carried out as follows:

ROTATION TEST:



Checks
- free rotation of idlers
- setting of internal components
- for any rises in temperature in the bearing seating area

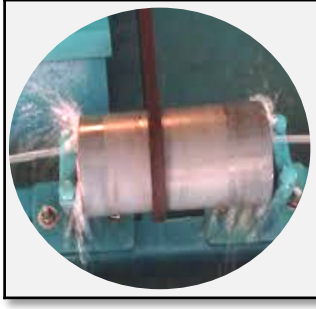
RUN – OUT TEST:

- Test is carried out using a Dial Gauge Indicator on a special fixture.
- Max. allowable Run-Out for idlers is 0.8, which is below the limit set by IS:8598.

DUST INGRESS TEST:

Checks:
- for any ingress dust in the roller bearings.
- All rollers are completely sealed at bearing assembly to avoid any dust ingress whilst in use.

WATER INGRESS TEST:



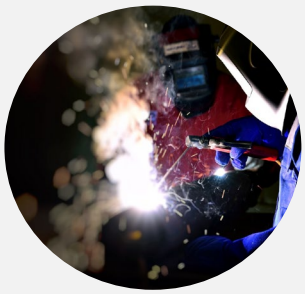
Checks:
- for any ingress of water in the roller bearings. Pressurised water jets are sprayed on the roller housing. The rollers are then checked for any water droplets within the bearing assembly.

TESTING AND INSPECTION

FRICTION FACTOR TEST:

- All Rollers are tested for a friction factor of less than 0.015 which conforms to IS-8598
- Dynamic tests are carried out under load on machinery with a digital tachometer.

WELD QUALITY TEST:



Check

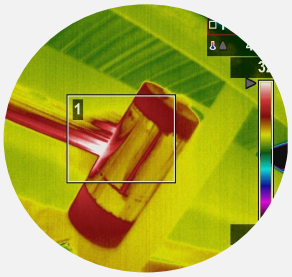
- to ensure a good quality of welding at the end discs.
- Visual or Die Penetration (discussed with client to suit requirements)

BEARING TEST:

We can test and check your current bearings for authenticity.

Please contact us via email to discuss this.

THERMOGRAPHIC TEST:



- This test refers to the nondestructive testing of parts, materials and systems through digital imaging of thermal patterns of the surface.

HOT SPOT HEAT DETECTION TEST:

This detection method identifies any overheating of the bearing and the shaft.

The Hot Spots can assist in the early detection of deterioration of idler bearings.

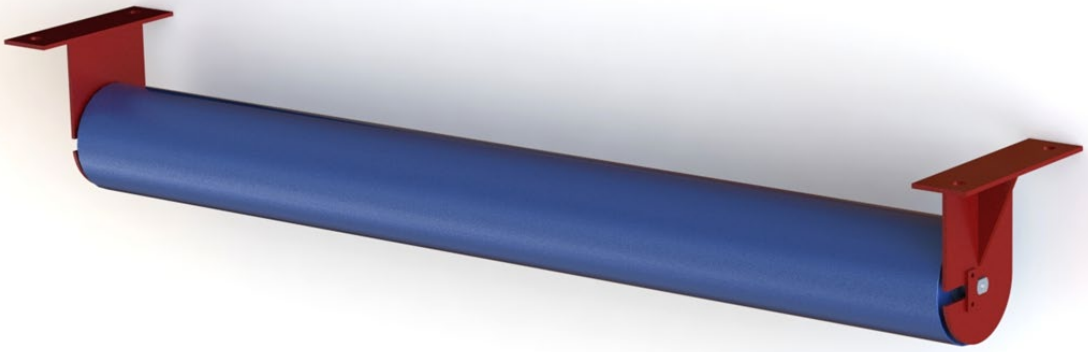
STAGE WISE INSPECTION:

- Raw Material Inspection
- In process Stage Wise Inspection
- Beveling & Pipe-cutting Inspection
- Bore Depth Inspection
- Weld Penetration Inspection
- Bearing and Sealing Kit Assembly Inspection
- Pre-dispatch /Final Inspection.

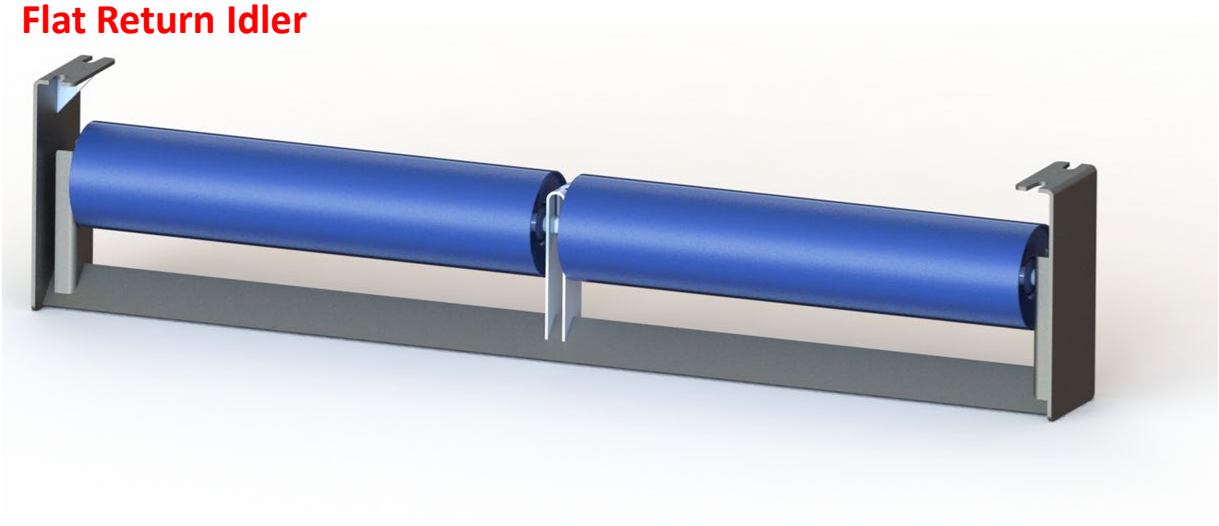
MAGNUM STEEL ROLLERS

FRAMES

Base Mounted Idler



Flat Return Idler



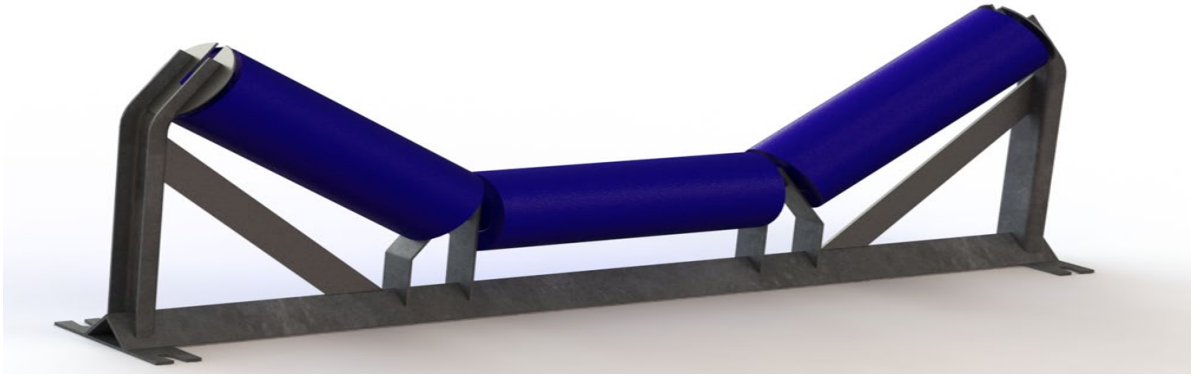
Self Cleaning Idler

FRAMES

Impact Idler Retractable

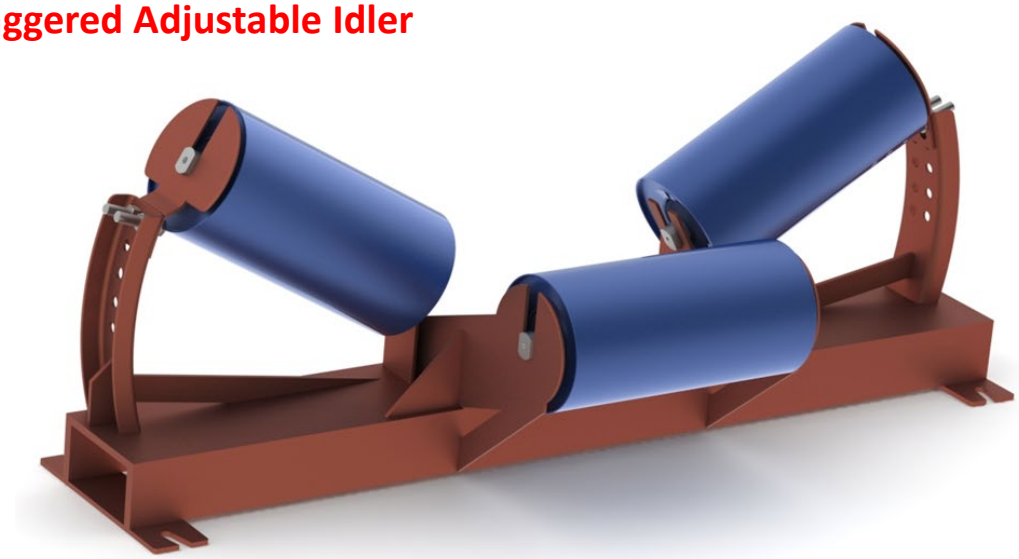
Impact Transition Retractable Idler

Galvanised Frame and Machined Idler

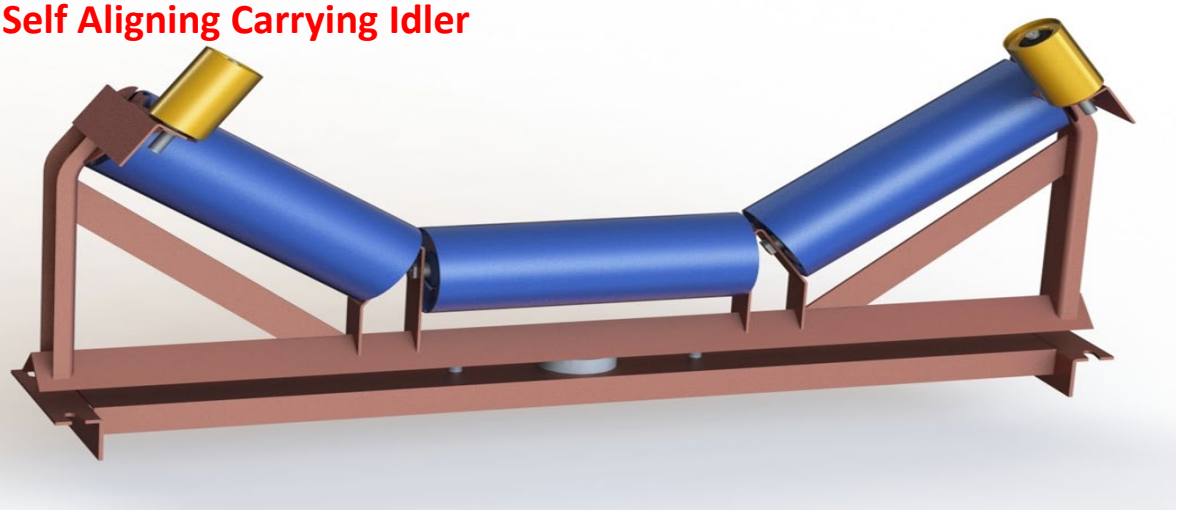


FRAMES

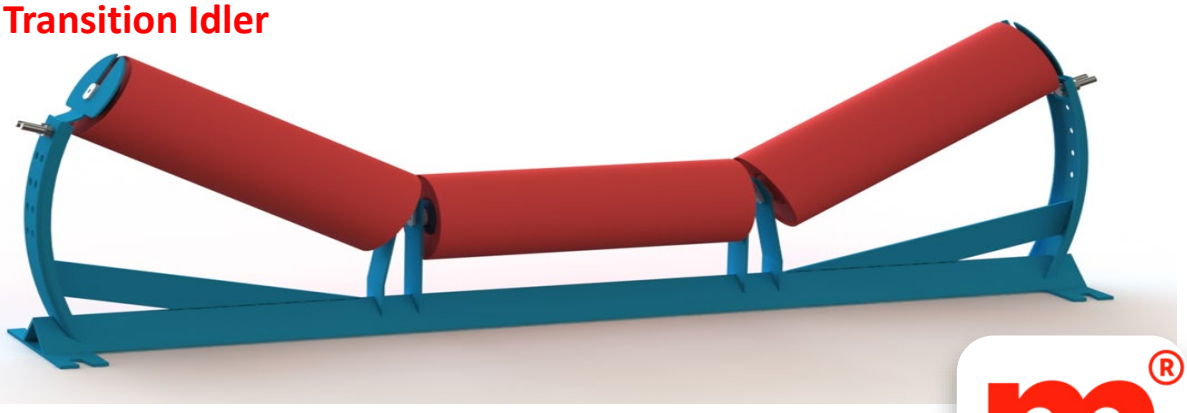
Staggered Adjustable Idler



Self Aligning Carrying Idler

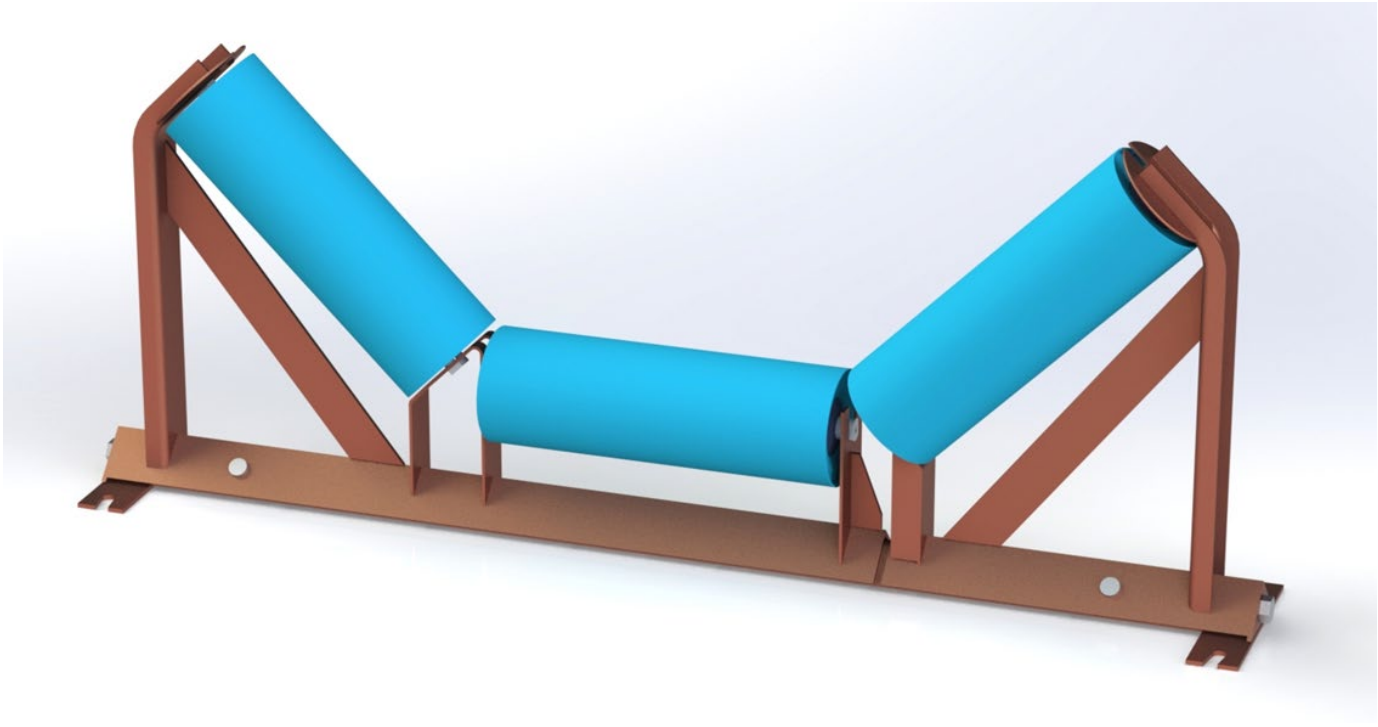


Transition Idler

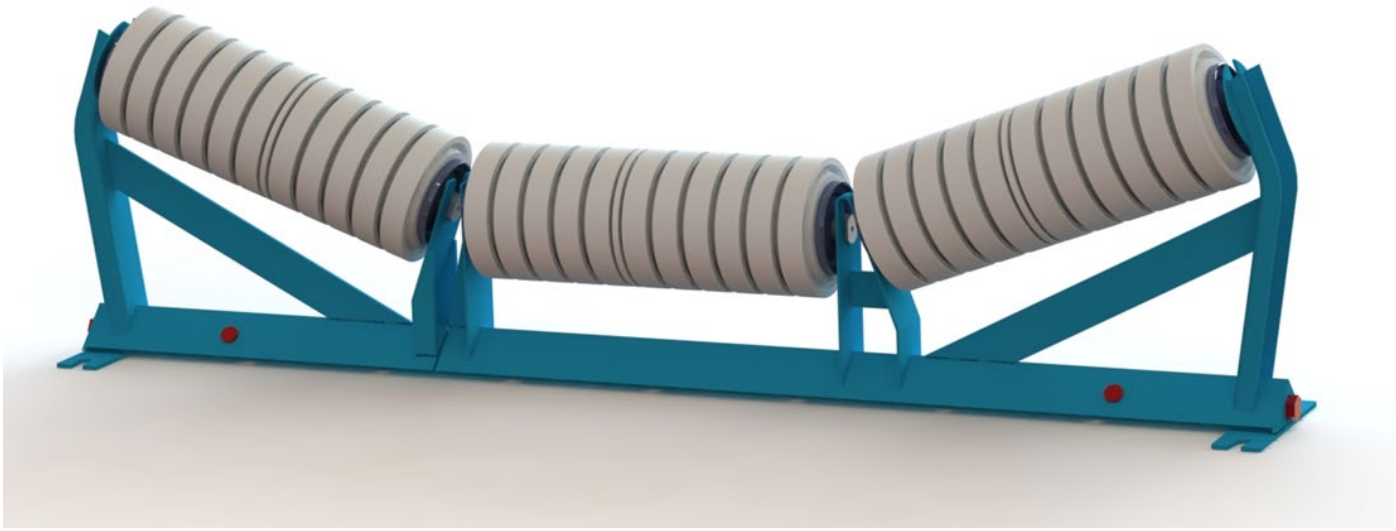


FRAMES

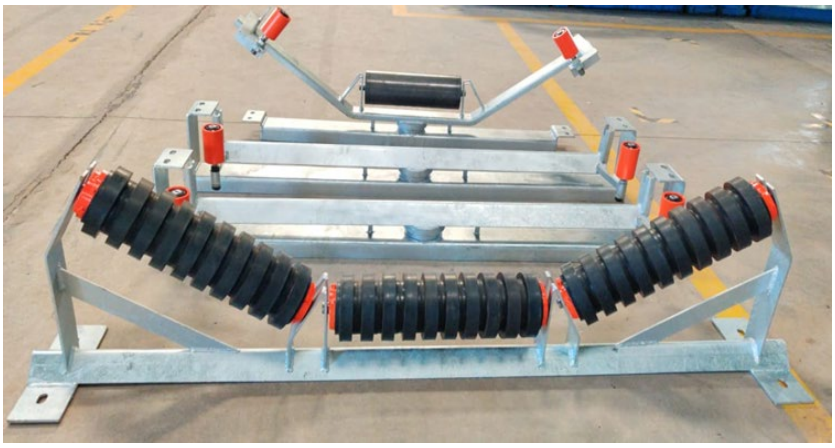
Troughing Retractable Idler

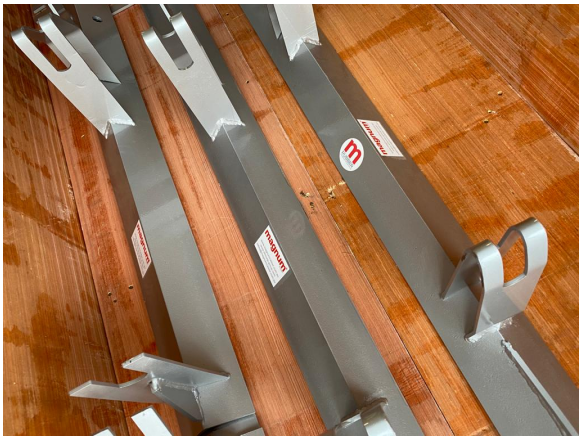


Troughing Impact Retractable Idler



FRAMES





OVERSIZE COMPOSITE POLY WHEELS AND ROLLERS

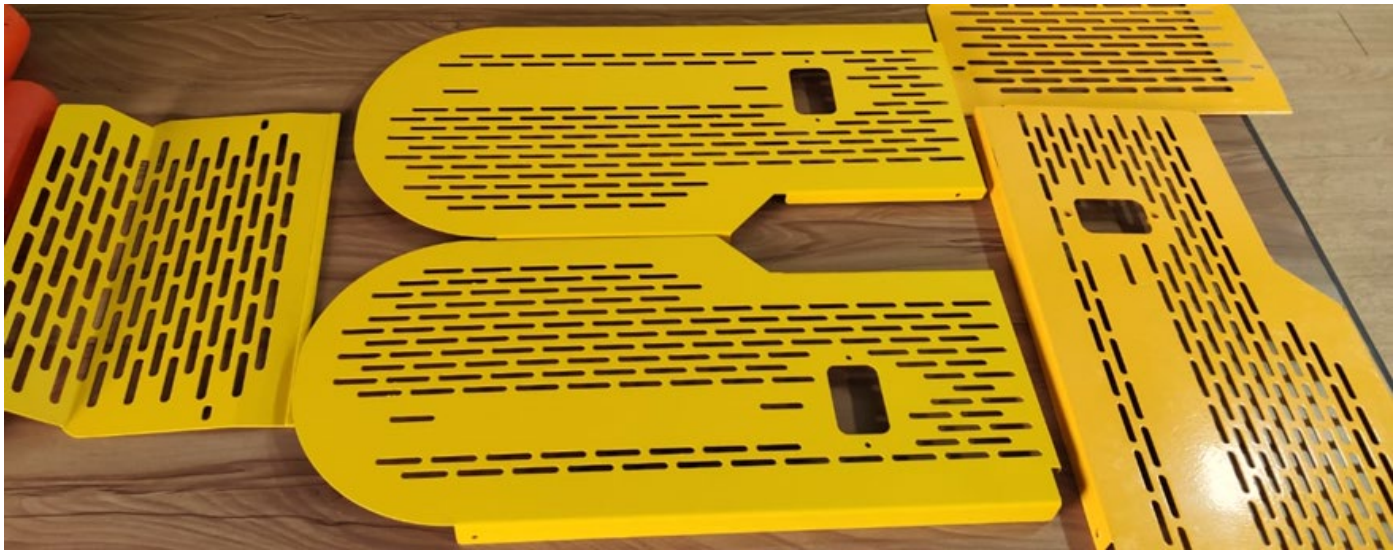
We have a fully equipped CNC machine shop to machine the wheels to the required surface finish and profile. Our experienced team will advise and re-engineer the poly to last longer in any given application. Offer the right type of poly to be used in the application.

We have years of experience in lining a range of Conveyer rollers, Pulleys, Wheels, Standard rollers, Trommel wheels, Guide Wheels/Trackers, drive rollers Idlers and Feed rollers.

Advantages:

- ✓ Australian Manufactured
- ✓ High-Grade Durability with excellent abrasion resistance
- ✓ Thorough Pre-Prep before casting the product
- ✓ Intelligently Formulated Properties, which offers a Higher resilience
- ✓ Mastered the Art of Pouring process and technics
- ✓ Controlled curing environment
- ✓ Increase plant equipment lifespan
- ✓ Reduced noise levels
- ✓ Higher chemical bonding strengths
- ✓ No Porosity, or air entrapment

CONVEYOR SAFETY GUARDS



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