



REXLINE
ENGINEERING

PRODUCT SUPPLY CAPABILITY



Rexline Engineering offers designing, drafting, fabrication and commissioning capability with in-house manufactures wear, corrosion and bulk material handling products.



www.rexlineengineering.com



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BULK MATERIAL HANDLING/ CONVEYOR MANUFACTURING



BULK MATERIAL HANDLING/ CONVEYOR MANUFACTURING

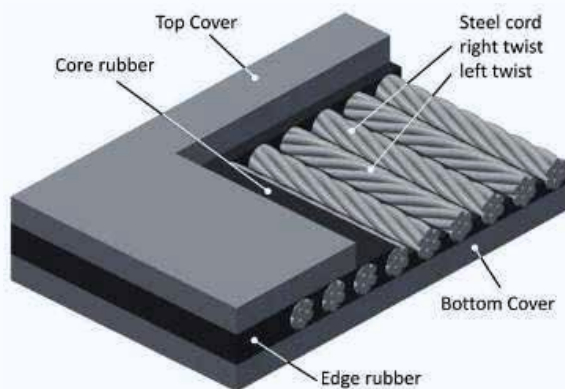


BULK MATERIAL HANDLING/ CONVEYOR MANUFACTURING

REXLINE BELTING RANGE

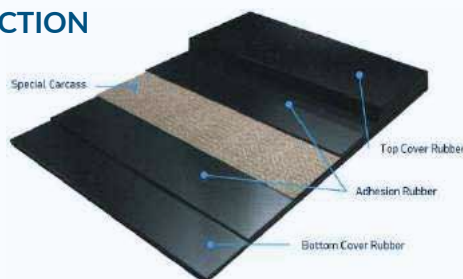
Steel Cord Conveyor Belt

SPECIFICATIONS



Multy-Ply Fabric Conveyor Belt

CONSTRUCTION



The design of a multi-ply fabric conveyor belt enables application in all areas of Material handling. It consists of the rubber cover, carcass, and core rubber.

Classification of performance:

General Belt, Oil Resistant, Heat Resistant, Chemical Resistant, Fire Resistant, Cold Resistant, Abrasion Resistant, High Temperature Resistant.

Chevron Conveyor Belt

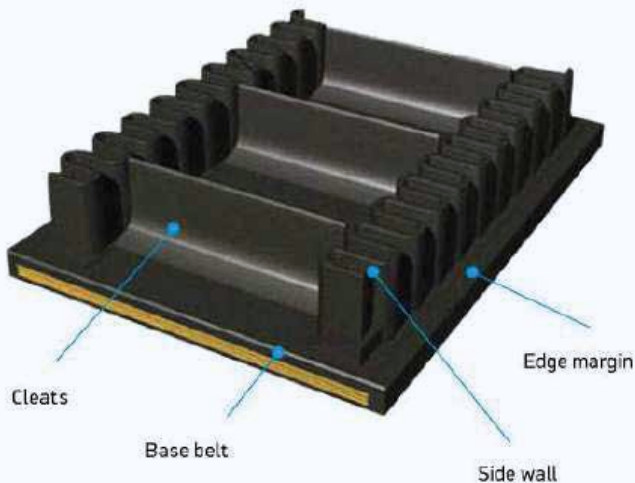


Chevron conveyor belt is composed of base belt and chevron. Our chevron profiles are vulcanized on the base belt, which ensures the belt's long service life and good flexibility. Chevron types and heights are different because of different conveyed materials and gradients of conveyors.

They are the best choice to meet your requirements when higher angles of inclination are required.

BULK MATERIAL HANDLING/ CONVEYOR MANUFACTURING

Corrugated SideWall Belt



Heat Resistance Conveyor Belt



Fire Resistant Belt



REXLINE ENGINEERED SPECIAL PURPOSE BELT

Rexline Engineering Indonesia has a wide range of options for heavy duty belting products and cover compounds to suit various applications.

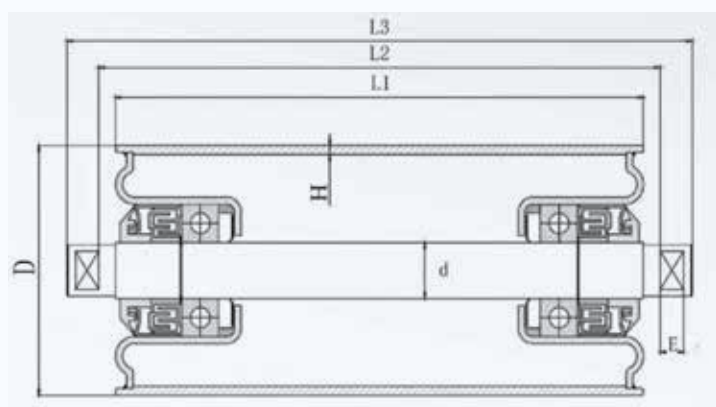
Our belting solutions are designed to deliver outstanding performance to:

- > High abrasion resistant belt
- > Extreme temperatures continuous up to 500
- > Impact resistant belt
- > Tear resistant belt
- > Cut & gouge resistant belt
- > Oils & electric resistant belt
- > Chemical resistant belt
- > Severe weather condition

ROLLERS & IDLERS







STEEL ROLLER

Rexrollers is the competitive standard for belt conveyor. the idler is used as a carrying Roller and also as a return Roller for non-sticky materials. The steel sealed shell and waterproof seal from a reliable splash protection. Multiple seals effectively prevent dust from entering the inside of the drum. The surface of the drum is shot blasted and covered with viscous materials. You can carry our special treatment surface.



Dimensions (mm)

- L1: 150-2500 Customize
- L2: 150-2500 Customize
- L3: 150-2500 Customize
- D: 76,89,102,108,114,127,133,159 Customize
- d: 15,20,25,30 Customize
- H: 2-8 Customize

| | | | | | |
|---|---|---|---|--|---|
|  | Type | A |  | Type | B |
| | Description | | | Description | |
| | Outer Double Flat | | | Inner Double Flat | |
|  | Type | C |  | Type | D |
| | Description | | | Description | |
| | Round With A Hole For Connection In Garland | | | Outer Double Flat | |
|  | Type | E |  | Type | F |
| | Description | | | Description | |
| | Outer Double Flat & Inner Single Flat | | | Outer Single Flat | |
|  | Type | G |  | Type | H |
| | Description | | | Description | |
| | Inner Single Flat | | | Round With A Hole | |
|  | Type | I |  | Type | J |
| | Description | | | Description | |
| | Outer Double Flat & Inner Double Flat | | | Inner Round Reduced | |
|  | Type | K |  | Type | L |
| | Description | | | Description | |
| | Outer Thread & Outer Double Flat | | | Outer Double Flat With A Gutter For The Socket | |
|  | Type | M |  | Type | N |
| | Description | | | Description | |
| | Round With A Slotted Hole | | | Round With Inner Double Notch | |

ROLLERS & IDLERS

ROLLER PARTS

Bearing Housing

Rexrollers is the competitive standard for belt conveyor. the idler is used as a carrying Roller and also as a return Roller for non-sticky materials. The steel sealed shell and waterproof seal from a reliable splash protection. Multiple seals effectively prevent dust from entering the inside of the drum. The surface of the drum is shot blasted and covered with viscous materials. You can carry our special treatment surface.



Bearing

Rexroller Bearing are applying with large clearance, Deep groove ball bearings, which can protect and guarantee the rollers with the ideal static and dynamic balance Bearings either with double dust proof cover or with double Labyrinth ring will ensure rollers running smoothly to the maximum extend. Currently the bearing we used is FAG and SKF or as per required.



Sealing System

Rexroller use the multiple layer seal, and rush into lithium lubricating grease in the seal. The bearing oil loading is about 2/3-3/4 of the bearing clearance, The clearance between the seal rings are fully loaded. This way guarantees the enclosed and the compact endless of the seals and achieved the effectiveness of dust proof, waterproof and the bearing protection.



PACKAGE

Rexrollers roller will be put into the matched plastic bag, then packed in the wooden case, all of the wooden cases will be fumigated before loading to ensure the wooden case comply with the hygienic standard.



Wooden packing



Iron box packing

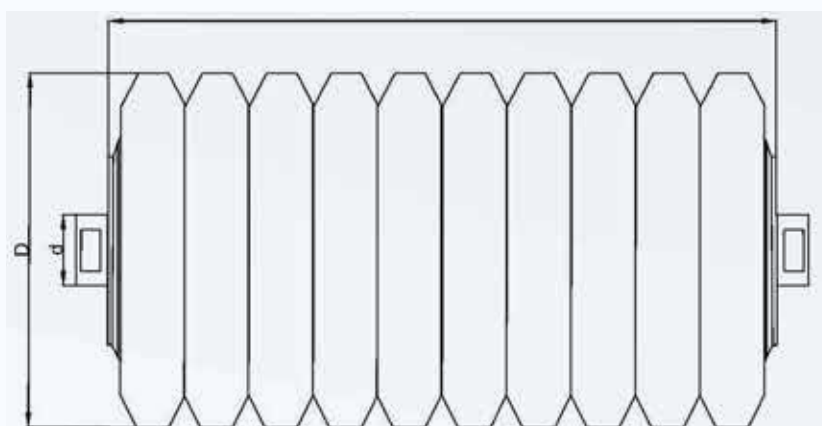


Packaging

ROLLERS & IDLERS

IMPACT ROLLER

Rexroller impact roller to absorb impact shocks at belt conveyor loading points. The impact idler is also suitable for a snub pulley for the dirty side of the belt as well as for an impact idler for unit goods conveyors. Impact Roller to base on the sturdy Steel idler roller. By adding rubber support ring to achieve the cushioning effect.



IMPACT IDLER ROLLER



A-type Support Ring

Features:

1. Small contact area
2. Good elasticity



B-type Support Ring

Features:

1. Good abrasion resistance
2. Wide contact surface
3. Good wear resistance



C-type Support Ring

Features:

1. Wide contact surface
2. Good wear resistance
3. Not easy to move



D-type Support Ring

Features:

1. Good flexibility
2. Impact resistance



E-type Support Ring

Features:

1. Wide contact surface
2. Good elasticity



E-type with Spicing Ring

Features:

1. Wide contact surface
2. Good wear resistance
3. Not easy to move

ROLLERS & IDLERS

RETURN ROLLER

Return roller are designed to support the return belt. The selection of the return idler type is influenced by the strength, stiffness, and weight of the belt.

Return roller are installed on the unloaded branch to support the conveyor belt on the branch. In the common layout the use of V-shaped or reverse V-shaped support in the lower unloaded section is beneficial to restrain the deviation of the conveyor belt.

Besides the rubber disc types A and B return idlers can be equipped with polyurethane discs. Tailor-made support ring assembly types are also available.



Rexrollers are used for belts that are clean and non-sticky. It is also available with rubber lagging (5mm or 10mm) and can be used as an impact roller. They are also used on both sides of the pressing guide bracket and as a counter idler for the cleaner.

ROLLERS & IDLERS

GARLAND - ROLLER

Rexrollers roller replace traditional idler and brackets. The idler are connected to each other with flexible links and fixed to the conveyor frame with suspension links which allow free movement in the direction of belt travel.



Rexroller Rollers garland idler roller spread the load over more idler. Thus also the belt profile changes and the belt load becomes steadier. The total quantity of the steel in conveyor frame can often be considerably reduced and the frames simplified.

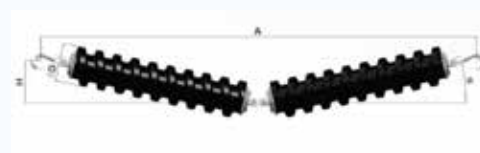
When conveying heavy item, with the help of garland idlers the pressures against the belt and idlers can be reduced. The life of the belt and idlers increase and thus a better economy is achieved.

Rexrollers provide four different hanging buckles. By lifting the idler set from the hook, the wreath idler set can be easily replaced.

| Three-Piece Carrying Garland | | | | |
|------------------------------|-------|----------|---------|--------|
| Width Of Conveyor Belt | a | A | H | D |
| 650-2000 | 35-45 | 930-2500 | 250-730 | 89-194 |



| Three-Piece Carrying Garland | | | | |
|------------------------------|-------|----------|--------|---------|
| Width Of Conveyor Belt | a | A | H | D |
| 650-2000 | 10-15 | 100-2500 | 90-330 | 160-219 |



ROLLERS & IDLERS

IDLER ROLLER BRACKET



ROLLERS & IDLERS

IDLER ROLLER BRACKET

Rexline Engineering bracket has a good steel structure, which provides a high load-bearing capacity.



The roller is fixed to the bracket by screws or hanging buckles. When the side idler is tilted forward, the Rexline Engineering bracket can stabilize the direction of the belt.



The surface of the bracket is processed by hot-dip galvanizing. Hot-dip galvanizing provides good corrosion protection and does not require any special precautions during transportation and handling.



The main bracket is made of sheet metal and can bear the maximum weight. The narrow shape of the top edge of the mechanism effectively prevents the accumulation of cleaning materials.



The main bracket is made of sheet metal and can bear the maximum weight. The narrow shape of the top edge of the mechanism effectively prevents the accumulation of cleaning materials.

ROLLERS & IDLERS



| | |
|-----------------------------|--------------------|
| Belt Width | 400-2400mm |
| Tube Diameter | Ø76- Ø 159 mm |
| Tilt Assist | Yes |
| Corrosion Protection | Hot dip galvanized |



| | |
|-----------------------------|--------------------|
| Belt Width | 400-800mm |
| Tube Diameter | Ø76- Ø 133 mm |
| Tilt Assist | Yes |
| Corrosion Protection | Hot dip galvanized |



| | |
|-----------------------------|--------------------|
| Belt Width | 400-2400mm |
| Tube Diameter | Ø76- Ø 159 mm |
| Tilt Assist | Yes |
| Corrosion Protection | Hot dip galvanized |



| | |
|-----------------------------|--------------------|
| Belt Width | 400-2400mm |
| Tube Diameter | Ø76- Ø 159 mm |
| Tilt Assist | Yes |
| Corrosion Protection | Hot dip galvanized |



| | |
|-----------------------------|--------------------|
| Belt Width | 400-2400mm |
| Tube Diameter | Ø76- Ø 159 mm |
| Tilt Assist | Yes |
| Corrosion Protection | Hot dip galvanized |

REXLINE PULLEY MANUFACTURING & PULLEY REFURBISHMENT

REXLINE PULLEY MANUFACTURING

Rexline Engineering Indonesia design and manufacture a full range of Conveyor rollers and pulleys which have been tried and tested in some of the world's largest mining companies. We manufacture using state of the art submerged arc technology welding to ensure quality and low failure rates.



REXLINE PULLEY REFURBISHMENT

- >> State of art facilities to refurbish pulleys both economically & efficiently.
- >> Safe, quick and efficient turnaround in Pulley refurbishments and hence minimizing downtimes during shutdowns.
- >> We can cater to client requirements to reinstate a pulley to its OEM specification or provide a better solution to increase its service life. Provides a comprehensive report after stripping and assessing the Pulley and a quote to repair within 4 working days.



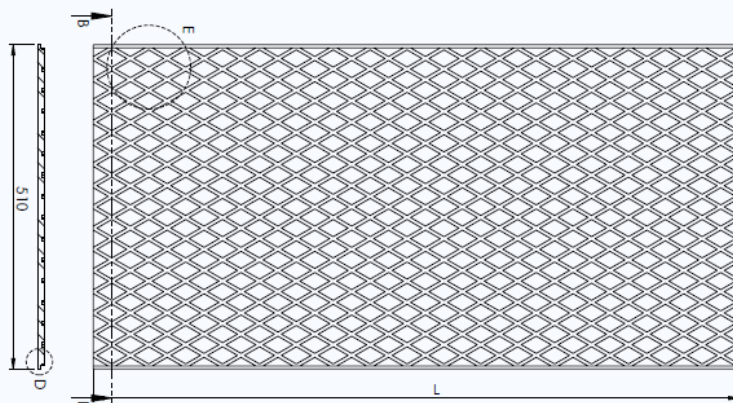
REXLINE PULLEY LAGGING

PULLEY LAGGING

Our Diamond and Ceramic Pulley lagging is engineered with only the highest wear resistant ceramic tiles and Diamond profiling. Our lagging now comes in rolls of 20m and 10m lengths for easy application and to eliminate waste

REXWRAP™ Diamond Pulley Lagging

- >> REXWRAP™ DIAMOND PULLEY LAGGING is our trademarked high performance 60 Duro Black lagging to give ultimate abrasion resistance in the highest wear areas of a pulley.
- >> REXWRAP™ is a self cleaning lagging with a large diamond Profile to help with channeling dirt and water away from the pulley.
- >> REXWRAP™ is available with a CN bonding layer to give excellent adhesion to the Steel Pulley surface.
- >> REXWRAP™ has outstanding physical properties making it the number one choice for Pulley lagging.



Features & Properties

| Technical Specifications | |
|---------------------------|--------------------|
| Polymer | NR/BR |
| Specific gravity | 1.10 ± 0.05 |
| Hardness | 60 ± 5 Shore A |
| Tensile strength (min) | 20 MPa |
| Elongation at break (min) | 600 % |
| Abrasion resistance (max) | 90 mm ³ |
| Temperature Rating | -20°C to +70°C |

Available Dimensions

10 x 500 x 20000 mm
12 x 500 x 20000 mm
15 x 500 x 20000 mm

*REXWRAP™ Laggings can be manufactured and supplied in a wide variety of lengths and thickness. Please contact us with your requirements

REXLINE PULLEY LAGGING

REXWRAP™ Diamond Pulley Lagging



REXLINE PULLEY LAGGING

REXWRAP™ Ceramic Pulley Lagging

- >> REXWRAP™ CERAMIC PULLEY LAGGING is our trademarked high performance 60 Duro Black lagging with 92% Alumina ceramic tiles vulcanized into the rubber to give ultimate abrasion resistance in the most high wear areas of a pulley.
- >> REXWRAP™ is a self cleaning pulley lagging with Radius grooves to conquer the effect of excessive dirt and water build up on the pulley.
- >> REXWRAP™ Alumina Ceramic tiles have a dimpled profile to help with traction and grip.
- >> REXWRAP™ is available with a CN bonding layer to give excellent adhesion to the Steel Pulley surface.
- >> REXWRAP™ has outstanding physical properties making it the number one choice for Pulley lagging.



Available Dimensions

12 x 500 x 10000 mm

15 x 500 x 10000 mm

*REXWRAP™ Laggings can be manufactured and supplied in a wide variety of lengths and thickness. Please contact us with your requirements

Features & Properties

| Technical Specifications | |
|---------------------------|-------------------------------|
| Polymer | NR/BR |
| Specific gravity | 1.13 ± 0.05 |
| Hardness | 60 ± 5 Shore A |
| Tensile strength (min) | 17 MPa |
| Elongation at break (min) | 405 % |
| Abrasion resistance (max) | 140 mm ³ |
| Temperature Rating | -30°C to +60°C |
| Alumina Content | ≥92% |
| Bulk Density | ≥3.63g/cm ³ |
| Hardness R45N | Min 77 |
| Flexural Strength | Min 2,447 Kg/cm ² |
| Compressive Strength | Min 19,884 Kg/cm ² |



Comparison Table for Co-Efficient of Friction

| Co-efficient of Friction | Bare Steel Pulley | Rubber Lagging | Ceramic Lagging |
|--------------------------|-------------------|----------------|-----------------|
| Dry | 0.25 | 0.50 | 0.75 |
| Wet | 0.15 | 0.35 | 0.55 |

REXLINE PULLEY LAGGING

Finger Gripped Engineered Ceramic Pulley Lagging

- >> Excellent bonding strength from rubber to tiles.
- >> Back of the tile, the grooves are cut to further improve tile bonding and eliminates tile propping out.
- >> High tile quality with specified tile specs.
- >> Square protrusions in the end avoid tracking issues.
- >> Round knobs are gentle to the belt compared to harsh diamond shaped tiles knobs.
- >> Radius grooves is an advantage (Allows small pulley diameter and has a self-cleaning effect)
- >> Requires lesser number of sheets cover existing pulley face width
- >> 10m Roll of 500m width is advantageous, as there is minimal wastage. The sheets available in the market are less than 200m wide.



BELT CLEANER

Primary Belt Cleaner



PRE-CLEANER is an economical yet efficient solution for conveyor belt cleaning problems.

Pre-Cleaner is designed for long term performance to withstand punishing conditions. It is made up of heavy duty steel pipe frame to withstand high speed belt with heavy loads.

Ideally installed on the face of the head pulley, just below the origin of material trajectory, the cleaner design prevents material build up and returns valuable carry back material back into the primary material stream. The cleaner incorporates a Single piece solid Urethane Blade as the cleaning tip. The blade is mounted with single locking pin arrangement which makes installation and maintenance.

Colour coded Polyurethane blades suitable for different application and conditions are available on request.

SALIENT FEATURES

- >> Minimum Cleaning pressure exerted on the belt with maximum efficiency.
- >> The scraper's design allows ease of installation and replacement of blade with the removal of locking pin.
- >> The tensioning device ensures constant blade contact with belt.
- >> Unique design maintains constant cleaning angle and optimum radial pressure through all stages of blade life.
- >> Pre cleaner incorporates a sturdy PU blade and heavy duty carrier tube

SPECIFICATION

| Blade Color | Red | Brown | Green |
|---------------------------|---------------------------|---|--|
| Application | All Standard Applications | High Moisture, High Abrasive & wear, Chemical | High Temperature, High Abrasion & wear |
| Max. Service Temp. (°C) | Continuous - 70 | Continuous - 70 | Continuous - 120 |
| Max. Belt Speed (m/s) | 4.6 | 4.6 | 4.6 |
| Min. Pulley Dia. (mm) | 305 | 305 | 305 |
| Wear Life (mm) | 115 | 115 | 115 |

BELT CLEANER

DIMENSIONS

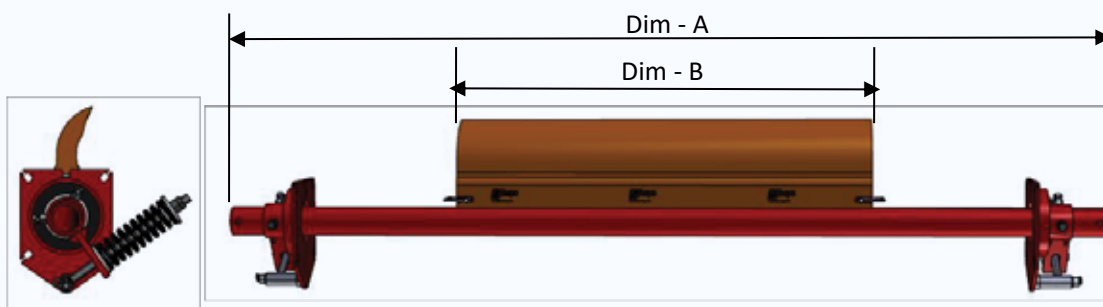
| Belt Width in mm | Assembly P/N | Dim. - A in mm | Dim. - B in mm | Net Weight in Kg | Spare Blade P/N | Mainframe P/N |
|------------------|--------------|----------------|----------------|------------------|-----------------|----------------|
| 500 | TCP-0500-X-X | 1500 | 450 | 24.09 | TCP-SP-0500-X | TCP-SP-0500-MF |
| 650 | TCP-0650-X-X | 1650 | 600 | 26.45 | TCP-SP-0600-X | TCP-SP-0600-MF |
| 800 | TCP-0800-X-X | 1800 | 750 | 28.80 | TCP-SP-0800-X | TCP-SP-0800-MF |
| 1000 | TCP-1000-X-X | 2000 | 900 | 31.47 | TCP-SP-1000-X | TCP-SP-1000-MF |
| 1200 | TCP-1200-X-X | 2200 | 1050 | 34.14 | TCP-SP-1200-X | TCP-SP-1200-MF |
| 1400 | TCP-1400-X-X | 2400 | 1200 | 43.55 | TCP-SP-1400-X | TCP-SP-1400-MF |
| 1600 | TCP-1600-X-X | 2600 | 1500 | 48.00 | TCP-SP-1600-X | TCP-SP-1600-MF |
| 1800 | TCP-1800-X-X | 2800 | 1650 | 51.02 | TCP-SP-1800-X | TCP-SP-1800-MF |
| 2000 | TCP-2000-X-X | 3000 | 1800 | 54.03 | TCP-SP-2000-X | TCP-SP-2000-MF |
| 2200 | TCP-2200-X-X | 3200 | 1950 | 57.04 | TCP-SP-2200-X | TCP-SP-2200-MF |
| 2400 | TCP-2400-X-X | 3400 | 2250 | 61.49 | TCP-SP-2400-X | TCP-SP-2400-MF |

* Replace "X" with R for red color blade, B for brown color & G for green color blade. Applicable for spare blade part number also.

** Replace second 'X' with 'S or T " for spring or torque tensioner respectively.

*** For SS frame, add "-SS" at the end of Assembly part number

**** Add '(SS) ' at end of mainframe part number for Stainless steel mainframe



Accessories & Spares

Rexline provides a range of accessories for easy installation and maintenance of belt cleaners. They include mounting brackets, inspection doors, tensioning devices etc. Custom made brackets and fittings are also available for specific applications.

| | |
|----------------------|--------------|
| Spring Tensioner 60φ | TCP-SP-TR-S1 |
| Spring Tensioner 76φ | TCP-SP-TR-S2 |
| Torq Tensioner 60φ | TCP-SP-TR-T1 |
| Torq Tensioner 76φ | TCP-SP-TR-T2 |
| End Cap 60φ | TCP-SP-EC1 |
| End Cap 76φ | TCP-SP-EC2 |

BELT CLEANER

TAIL PLOW - INTERNAL BELT CLEANERS

TAIL PLOW is an economical solution to prevent the material which is falling on the top surface of return belt, from entering between belt and the pulley.

Ideally installed on inner loop of the return side of conveyor belt before tail and take-up Pulley. The sturdy 200mm x 100mm size blade provides 50 mm wear life at service temperatures up to 180°C and belt speeds up to 7.5 m/sec.



SALIENT FEATURES

- >> Choice of rubber and polyurethane blades to suit various temperature and belt speed.
- >> V Plow for uni directional and diagonal plows for reversible applications.
- >> Tensioning arrangement to ensure constant contact between cleaner blade and belt.
- >> Suitable for high speed and high tonnage belts.
- >> Can be customized to meet site requirement.



SPECIFICATIONS

| Cleaner | Application | Maximum Service Temperature | Maximum Belt Speed | Wear Life |
|----------|---------------------|-----------------------------|--------------------|-----------|
| V - TYPE | Unidirectional Belt | 120 °C | 7.5 M/s | 50 mm |
| D - TYPE | Bidirectional | 120 °C | 7.5 M/s | 50 mm |

BELT CLEANER

DIMENSIONS

| Belt Width h (mm) | Blade Coverage (mm) | V Plow | | | D Plow | | | Hardness (Shore A) | |
|----------------------|---------------------|---------------|-------------------|-----------------|---------------|-------------------|-----------------|--------------------|--------|
| | | Assembly P/N* | Blade Length (mm) | Spares P/N* | Assembly P/N* | Blade Length (mm) | Spares P/N* | PU | Rubber |
| 500 | 600 | TTV-0500-X-X | 790 | TTV-SP-0500-X-X | TTD-0500-X-X | 850 | TTD-SP-0500-X-X | 80+/-5 | 60+/-5 |
| 650 | 750 | TTV-0650-X-X | 1010 | TTV-SP-0650-X-X | TTD-0650-X-X | 1060 | TTD-SP-0650-X-X | | |
| 800 | 900 | TTV-0800-X-X | 1220 | TTV-SP-0800-X-X | TTD-0800-X-X | 1270 | TTD-SP-0800-X-X | | |
| 1000 | 1100 | TTV-1000-X-X | 1500 | TTV-SP-1000-X-X | TTD-1000-X-X | 1560 | TTD-SP-1000-X-X | | |
| 1200 | 1300 | TTV-1200-X-X | 1780 | TTV-SP-1200-X-X | TTD-1200-X-X | 1840 | TTD-SP-1200-X-X | | |
| 1400 | 1500 | TTV-1400-X-X | 2070 | TTV-SP-1400-X-X | TTD-1400-X-X | 2120 | TTD-SP-1400-X-X | | |
| 1600 | 1700 | TTV-1600-X-X | 2350 | TTV-SP-1600-X-X | TTD-1600-X-X | 2400 | TTD-SP-1600-X-X | | |
| 1800 | 1800 | TTV-1800-X-X | 2630 | TTV-SP-1800-X-X | TTD-1800-X-X | 2690 | TTD-SP-1800-X-X | | |
| 2000 | 2100 | TTV-2000-X-X | 2900 | TTV-SP-2000-X-X | TTD-2000-X-X | 2970 | TTD-SP-2000-X-X | | |
| 2200 | 2300 | TTV-2200-X-X | 3200 | TTV-SP-2200-X-X | TTD-2200-X-X | 3250 | TTD-SP-2200-X-X | | |
| 2400 | 2500 | TTV-2400-X-X | 3480 | TTV-SP-2400-X-X | TTD-2400-X-X | 3540 | TTD-SP-2400-X-X | | |

* Replace 1st X with R if operating temperature is <700 C & G if operating temperature is <700 C,
Replace 2nd X with R or P for Blade material, Rubber or Polyurethane respectively.

RUBBER SHEETING FOR WEAR PROTECTIONS

Rexline Premium Rubber Sheeting



REXLINE PREMIUM Rubber Sheeting is our trademarked high performance 40 Duro Pink Premium grade, wear resistant natural rubber. REXLINE PREMIUM has excellent resistance to wet slurry and fine particle abrasion with high elasticity and flexibility.

REXLINE PREMIUM Rubber Sheeting is available in either a buff backed finish or CN bonding layer to give excellent chemical and mechanical adhesion to a range of parent metals and surfaces.

REXLINE PREMIUM has outstanding physical properties making it the number one choice for wear protection and rubber lining applications.

Features & Properties

| Technical Specifications | |
|-------------------------------|--------------------|
| Specific gravity | 0.98± 0.05 |
| Hardness | 38 ± 5 Shore A |
| Tensile strength (min) | 27 MPa |
| Elongation at break (min) | 903% |
| Abrasion resistance (max) | 81 mm ³ |
| Tear resistance (Angular) min | 44.5 Kg/cm |
| Resilience | 78% |

Available Dimensions

3 x 1500 x 10000 mm
6 x 1500 x 10000 mm
9 x 1500 x 10000 mm
10 x 1500 x 10000 mm
12 x 1500 x 10000 mm
15 x 1500 x 10000 mm
19 x 1500 x 10000 mm
24 x 1500 x 10000 mm

Rexline MAX Rubber Sheeting



REXLINE MAX Rubber Sheeting is our trademarked high performance 40 Duro Pink, wear resistant natural rubber. REXLINE MAX Rubber Sheeting has excellent resistance to wet slurry and fine particle abrasion with high elasticity and flexibility.

REXLINE MAX Rubber Sheeting is available in either a buff backed finish or CN bonding layer to give excellent adhesion to a range of parent metals and surfaces.

REXLINE MAX Rubber Sheeting has outstanding physical properties making it the number one choice for wear protection rubber lining applications.

Features & Properties

| Technical Specifications | |
|-------------------------------|---------------------|
| Specific gravity | 1.10± 0.05 |
| Hardness | 40 ± 5 Shore A |
| Tensile strength (min) | 18 MPa |
| Elongation at break (min) | 656.5% |
| Abrasion resistance (max) | 101 mm ³ |
| Tear resistance (Angular) min | 40.5 Kg/cm |
| Resilience | 61% |

Available Dimensions

3 x 1500 x 10000 mm
6 x 1500 x 10000 mm
9 x 1500 x 10000 mm
10 x 1500 x 10000 mm
12 x 1500 x 10000 mm
15 x 1500 x 10000 mm
19 x 1500 x 10000 mm
24 x 1500 x 10000 mm

RUBBER SHEETING FOR WEAR PROTECTIONS

Rexline Orange Rubber Sheetting



REXLINE ORANGE is our trademarked highly reliable performance sheet lining for harsh conditions due to its very high NR-Polymer content.

REXLINE ORANGE is a 38 Duro Orange Premium grade, wear resistant rubber. REXLINE ORANGE has excellent resistance to wet slurry and fine particle abrasion with high elasticity and flexibility.

REXLINE ORANGE is available with a CN bonding layer to give excellent adhesion to a range of parent metals and surfaces. This also helps with fast adhesion and effective working rates.

Roll REXLINE ORANGE has outstanding physical properties making it the number one choice for wear protection rubber lining applications.

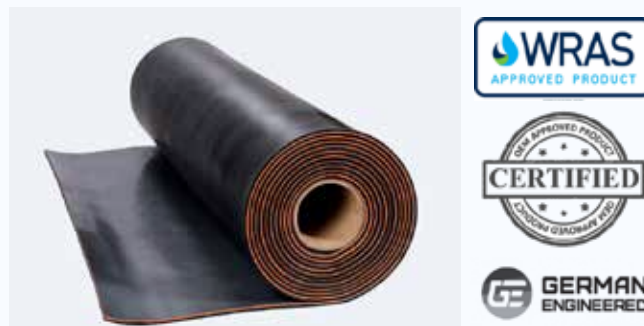
Features & Properties

| Technical Specifications | |
|-------------------------------|-------------------------------|
| Polymer | NR |
| Specific gravity | 1.05 ± 0.05 g/cm ³ |
| Hardness | 38 ± 5 Shore A |
| Tensile strength (min) | 20 MPa |
| Elongation at break (min) | 656.5% |
| Abrasion resistance (max) | 86mm ³ |
| Tear resistance (Angular) min | 45.5 kg/cm |
| Operating Temperature | -40°C to + 70°C |

Available Dimensions

| | |
|----------------------|----------------------|
| 3 x 1500 x 10000 mm | 15 x 1500 x 10000 mm |
| 6 x 1500 x 10000 mm | 19 x 1500 x 10000 mm |
| 9 x 1500 x 10000 mm | 24 x 1500 x 10000 mm |
| 12 x 1500 x 10000 mm | |

Rexline Indication Layer Rubber Sheetting



REXLINE IL (INDICATION LAYER) comes in 40, 50 and 60 Duro with an Orange indication layer for safety and reliability. REXLINE IL has good UV Light protection and is available with a CN bonding layer to give excellent adhesion to a range of parent metals and surfaces.

This also helps with fast adhesion and effective working rates. Rubber Sheetting Roll REXLINE IL has excellent resistance to dry wear and high impact areas because of its abrasion properties. It is also suitable for wet slurry and fine particle abrasion with high elasticity and flexibility.

REXLINE IL has outstanding physical properties making it the number one choice for wear protection rubber lining applications.

Features & Properties

| Technical Specifications IL 40 | |
|--------------------------------|---------------------|
| Polymer | NR |
| Hardness | 40± 5 Shore A |
| Tensile strength (Min) | 19 Mpa |
| Elongation at break (Min) | 656.5% |
| Specific Gravity | 1.08 ± 0.05 |
| Abrasion Resistance (Max) | 126 mm ³ |
| Tear resistant Angular (Min) | 61 Kg/cm |

Available Dimensions

| |
|----------------------|
| 3 x 1500 x 10000 mm |
| 6 x 1500 x 10000 mm |
| 10 x 1500 x 10000 mm |
| 12 x 1500 x 10000 mm |
| 20 x 1500 x 10000 mm |

RUBBER SHEETING FOR WEAR PROTECTIONS

Rexline Guard Rubber Sheeting



Rubber REXLINE GUARD is our trademarked high performance 60 Duro Pink Premium grade silica reinforced soft compound wear resistant rubber. REXLINE GUARD is very effective against impact and abrasion where flexibility cannot be compromised.

REXLINE Guard lining can maintain its natural strength and retaining the nerve of latex, together with the toughness needed for handling coarse materials.

REXLINE GUARD is available with a buff backed to give excellent adhesion to a range of parent metals and surfaces.

REXLINE GUARD rubber has outstanding physical properties making it the number one choice for wear protection rubber lining applications.

Features & Properties

| Technical Specifications | |
|--------------------------|---|
| Polymer | NR |
| Hardness | 60 ± 5 Shore A |
| Tensile strength | 28 MPa |
| Elongation at break | 808 % |
| Specific Gravity | 1.10 |
| Operating Temperature | -40°C to +75°C |
| Finish | (Smooth on oneside and other side buffed) |

Available Dimensions

| | |
|----------------------|----------------------|
| 3 x 1500 x 10000 mm | 12 x 1500 x 10000 mm |
| 6 x 1500 x 10000 mm | 15 x 1500 x 10000 mm |
| 9 x 1500 x 10000 mm | 19 x 1500 x 10000 mm |
| 10 x 1500 x 10000 mm | 24 x 1500 x 10000 mm |

Rexline Natural Rubber Sheeting- Commercial



REXLINE™ Natural Rubber Lining Commercial 60 Duro is our general purpose rubber used for lining, padding, strip lagging or gaskets. Good Sealing, insulating and isolating properties. Can also be used to protect Steel, metals and other surfaces.

REXLINE™ Natural Rubber Lining Commercial 60 Duro is available in any thickness and width.

Features & Properties

| Technical Specifications | |
|--------------------------|------------------------------|
| Type of Rubber | Natural Rubber |
| Specific Gravity | 1.3 ± 0.05 g/cm ³ |
| Hardness | 65 ± 5 Shore A |
| Tensile Strength | 3.5 MPa |
| Elongation @ Break | 300 % |
| Abrasion Resistance | 300 mm ³ |

Available Dimensions

| |
|------------------------|
| 1.59 x 1200 x 10000 mm |
| 3.18 x 1200 x 10000 mm |
| 4.76 x 1200 x 10000 mm |
| 6.35 x 1200 x 10000 mm |
| 9.52 x 1200 x 10000 mm |
| 12.7 x 1200 x 10000 mm |

RUBBER SHEETING FOR WEAR PROTECTIONS

Rexline Natural Insertion Rubber Sheeting



REXLINE Natural Insertion Rubber Commercial 60 Duro is our general purpose rubber reinforced with cotton fabric for increased tear resistance and dimensional stability.

REXLINE Natural Insertion Rubber is used for lining, padding, strip lagging or gaskets. Good Sealing, insulating and isolating properties. Can also be used to protect Steel, metals and other surfaces.

REXLINE Natural Insertion Rubber Commercial 60 Duro is available in any thickness and width.

Features & Properties

| Technical Specifications | |
|--------------------------|------------------------------|
| Type of Rubber | Natural Rubber |
| Specific Gravity | 1.3 ± 0.05 g/cm ³ |
| Hardness | 65 ± 5 Shore A |
| Tensile Strength | 3.5 MPa |
| Elongation @ Break | 300 % |
| Abrasion Resistance | 300 mm ³ |

Available Dimensions

1.5 x 1200 x 10000 mm – 1 Ply
 3 x 1200 x 10000 mm – 1 Ply
 4.5 x 1200 x 10000 mm – 2 Ply
 6 x 1200 x 10000 mm – 2 Ply
 10 x 1200 x 10000 mm – 2 Ply
 12 x 1200 x 10000 mm – 2 Ply

Rexline Neoprene Insertion Rubber Sheeting



REXLINE Neoprene Insertion Rubber Sheet Commercial 60 Duro is our general purpose rubber reinforced with cotton fabric for increased tear resistance and dimensional stability.

REXLINE Neoprene Insertion Rubber Sheet Commercial 60 Duro is used for lining, padding, strip lagging or gaskets. Good Sealing, insulating and isolating properties. Can also be used to protect Steel, metals and other surfaces.

REXLINE Neoprene Insertion Rubber Commercial 60 Duro is available in any thickness and width.

Features & Properties

| Technical Specifications | |
|--------------------------|-------------------------------|
| Type of Rubber | Neoprene Rubber |
| Specific Gravity | 1.40 ± 0.05 g/cm ³ |
| Hardness | 65 ± 5 Shore A |
| Tensile Strength | 180 kg/cm ² |
| Elongation @ Break | 500 % |
| Abrasion Resistance | 160 mm ³ |

Available Dimensions

1.5 x 1200 x 10000 mm – 1 Ply
 3 x 1200 x 10000 mm – 1 Ply
 4.5 x 1200 x 10000 mm – 2 Ply
 6 x 1200 x 10000 mm – 2 Ply
 10 x 1200 x 10000 mm – 2 Ply
 12 x 1200 x 10000 mm – 2 Ply

RUBBER SHEETING FOR WEAR PROTECTIONS

Rexline Nitrile Rubber Sheetting



REXLINE™ Nitrile Rubber Commercial 65 Duro has petroleum-based fuel and oil resistance, including petroleum, Lpg and Diesel.

REXLINE™ Nitrile rubber is used for lining, padding, strip lagging or gaskets. Good Sealing, insulating and isolating properties. Can also be used to protect Steel, metals and other surfaces.

Features & Properties

| Technical Specifications | |
|--------------------------|-------------------------------|
| Type of Rubber | Nitrile Rubber |
| Specific Gravity | 1.40 ± 0.05 g/cm ³ |
| Hardness | 65 ± 5 Shore A |
| Tensile Strength | 4 Mpa |
| Elongation @ Break | 250 % |
| Density | 1.5g/cm ³ |

Available Dimensions

1.59 x 1200 x 10000 mm
3.18 x 1200 x 10000 mm
4.76 x 1200 x 10000 mm
6.35 x 1200 x 10000 mm
9 x 1200 x 10000 mm
12 x 1200 x 10000 mm

Rexline Neoprene Insertion Rubber Sheetting



REXLINE Neoprene Insertion Rubber Sheet Commercial 60 Duro is our general purpose rubber reinforced with cotton fabric for increased tear resistance and dimensional stability.

REXLINE Neoprene Insertion Rubber Sheet Commercial 60 Duro is used for lining, padding, strip lagging or gaskets. Good Sealing, insulating and isolating properties. Can also be used to protect Steel, metals and other surfaces.

REXLINE Neoprene Insertion Rubber Commercial 60 Duro is available in any thickness and width.

Features & Properties

| Technical Specifications | |
|--------------------------|-------------------------------|
| Type of Rubber | Neoprene Rubber |
| Specific Gravity | 1.40 ± 0.05 g/cm ³ |
| Hardness | 65 ± 5 Shore A |
| Tensile Strength | 180 kg/cm ² |
| Elongation @ Break | 500 % |
| Abrasion Resistance | 160 mm ³ |

Available Dimensions

1.5 x 1200 x 10000 mm – 1 Ply
3 x 1200 x 10000 mm – 1 Ply
4.5 x 1200 x 10000 mm – 2 Ply
6 x 1200 x 10000 mm – 2 Ply
10 x 1200 x 10000 mm – 2 Ply
12 x 1200 x 10000 mm – 2 Ply

RUBBER SHEETING FOR WEAR PROTECTIONS

REXLINE RUBBER MANUFACTURING CAPABILITIES



- > REXLINE™ has Global manufacturing capabilities in India, Australia and China
- > Imperial/Metric sizes can be manufactured
- > Maximum width 2m
- > Roll size up to 300m

REXBOND RUBBER LINING & ADHESIVE FOR BELT SPLISING

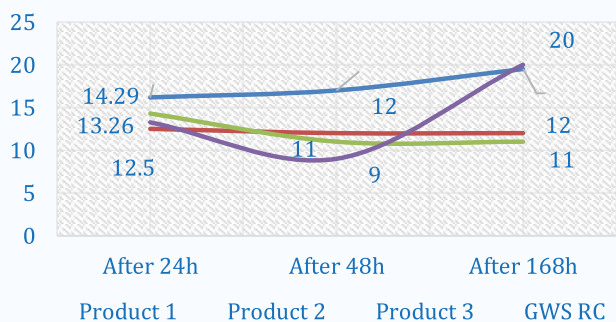
Rexline Engineering is one of the largest Adhesives and Chemical manufacturer globally. We are able to offer clients a full range of Chemicals from primers to adhesives. Our RexBond Rubber Cement has been specially formulated and engineered to offer secure bonding to any substrate. RexBond Rubber Cement is becoming a fast growing industry name due its long tack time which makes for easy application for rubber lining applicators.

RX2000 Adhesive for Belt Splicing RX4000 Adhesive for Rubber Lining



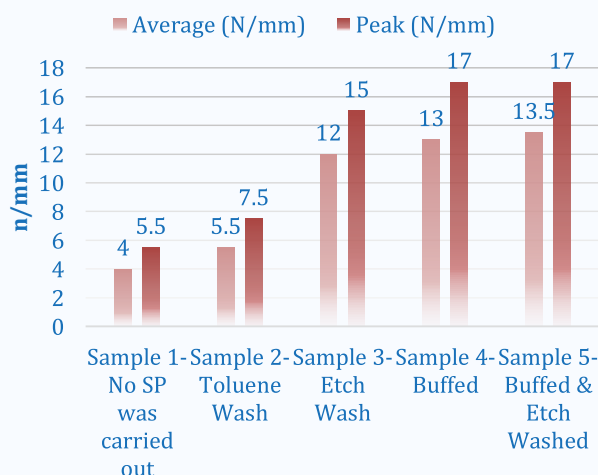
Bonding strength comparison with premium competitor

Steel to Rubber (Kg/inch)



Bonding strength comparison against different surface preparation

Average peel strengths inn/mm



CERAMIC WEAR LINER

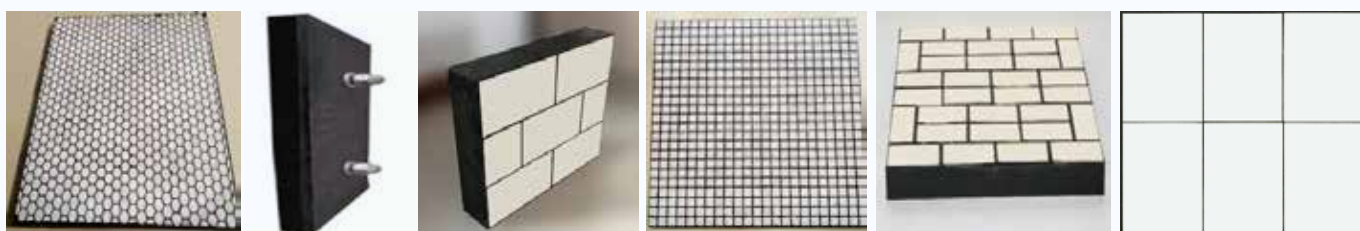
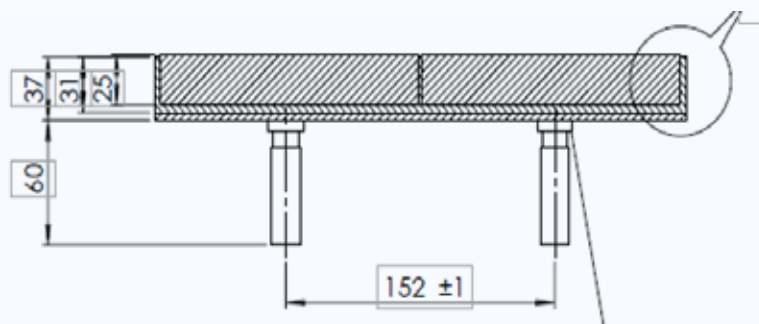
Alumina Tiles And Composite Liners

Our ceramic range has three different alumina composition (92%, 95% and ZTA) products to suit the various mining applications.



Composite Ceramic Liners & Mats

REXLINE™ ceramic wear liners range include composite ceramic liners or Steel backed and studded as per requirements. We also have a range of molded ceramic in rubber with CN backing. The liners can be customized depending on the application.



Ceramic Liners Tile Format

| Steel Backed Ceramic Liners | | | | |
|-----------------------------|-----------------|--------------|-------------|---|
| Tile Thickness | Tile size in mm | Rubber in mm | Steel in mm | Liner Sizes (mm) |
| 32mm | 20 | 6 | 6 | 300/150, 300/300, 300/450, 300/600, 450/450 |
| 64mm | 50 | 8 | 6 | 300/150, 300/300, 300/450, 300/600, 450/450 |
| 37mm | 25 | 6 | 6 | 300/150, 300/300, 300/450, 300/600, 450/450 |
| 69mm | 55 | 8 | 6 | 300/150, 300/300, 300/450,,300/600, 450/450 |

CERAMIC WEAR LINER

Composite Ceramic Data Sheet

| Technical Data of the Ceramics | | | |
|------------------------------------|--------------|--------------|-------|
| Description | 92% Ceramics | 95% Ceramics | ZTA |
| Alumina Content | 92% | 95% | – |
| Density (g/cm ³) | 3.61 | 3.62 | 4.1 |
| Rockwell Hardness (HRA) | 85 | 88 | 90 |
| Vickers' Hardness (HV10) | 1200 | 1350 | 1400 |
| Fracture Toughness (KIC or MPa.√m) | 3.6 | 4.1 | 5.5 |
| Compressive Strength (MPa) | 2000 | 2281 | 2924 |
| Wear Volume (cm ³) | 0.02 | 0.017 | 0.009 |

| Technical Data of the Rubber | |
|-----------------------------------|--------------|
| Items | Index |
| Elongation | ≥ 450% |
| Tensile Strength | ≥ 180 MPa |
| Break Extension | ≥ 500% |
| Shore Hardness | 55 – 65 HA |
| Tear Strength | ≥ 70 KN/M |
| Break Permanent Deformation | ≤ 24% |
| Rubber and Ceramic Adhesion Force | ≥ 3.0 MPa |
| (Shearing Stress) | |
| Temperature Resistance | ≤ 100° C |
| Rubber Aging Life | ≥ 8 years |
| Gap Between Tile | 0.8 – 2.0 mm |
| Rubber Edge | 1.5 – 2.0 mm |

CERAMIC WEAR LINER

PanzerPoxy High Density Ceramic Epoxy Repair Kit



PANZERPOXY Hi-Density Fast Cure Alumina Wear Epoxy is a 2-part epoxy ceramic wear resistant material, extensively used for repairing and protecting surfaces against abrasive attack.

PANZERPOXY contains 15% pure solid white beads, at an alumina content of 92-95 %.

The remaining alumina as is equivalent to that, which is in all ceramic wear epoxy on the market with most material being currently only at a total of 78% – 81% alumina content.

PANZERPOXY is a two part epoxy ceramic wear resistant material that provides the following product characteristics:

- > Excellent sag resistance
- > High trowel ability
- > No shrinkage
- > High slump resistance
- > High peel strength from substrate
- > Low fumes – Low VOC
- > High impact and abrasion resistance
- > Can be used on wet and damp surfaces

PANZERPOXY is designed to minimize sliding abrasion and corrosion wear. When used by itself, equipment, life can be extended by direct application to ceramic, concrete, steel, and rubber substrates where it exhibits very high peel strength. It also can be reapplied to itself and other ceramic coatings or used as a top coat to prolong wear life. Typical uses include: cyclone linings, pump linings, chutes, hoppers, pipes, pipe bends, tile grouting, dust collectors and exhausters, etc

CERAMIC WEAR LINER

| TECHNOLOGY | EPOXY |
|--------------------------|--------------------------------------|
| Chemical type (resin) | Bisphenol A resin |
| Chemical type (hardener) | DETA |
| Appearance (resin) | Clear/White |
| Appearance (hardener) | Amber |
| Appearance (mixed) | Clear |
| Components | Part A & Part B |
| Mix ratio by volume | 4:1 – Part A : Part B |
| Cure | Room Temp @ 25°C |
| Tack time/Gel time | 40 min @ 25°C |
| Total cure time | 8 hours @ 25°C |
| Ceramic | Al ₂ O ₃ |
| Ceramic type | Fused Al ₂ O ₃ |
| Ceramic grit size | >80% 0.5 to 1.0 mm |
| Colour mixture | Bronze/Black/White |
| Epoxy/Ceramic ratio | >68% w/w ceramic |

| CHARACTERISTICS | TYPICAL VALUE |
|---------------------------------------|---------------------------------|
| Appearance | Bronze/black pas |
| Coverage | 2.8 kg-1 sqm at 1mm |
| Working life | 40 mins @ 25° C |
| Compressive Strength | 9,000 (N/mm ²) |
| Hardness ASTM D 2240 | 88 Shore D |
| Peak exotherm | 55°C |
| Tensile strength | 9,500 psi |
| Flexural strength | 16,000 psi |
| Izod impact, ft lbs/in | 0.54 |
| Weight loss @ 100°C | 0.4% |
| Volume resistivity | 1.4 × 10 ¹⁵ (ohm cm) |
| Dielectric const @ 10 ⁶ Hz | 4.26 |

Typical Properties of Cured Material

To achieve product best use and performance, thorough mixing is required.

Application with a clean dry trowel achieves best results. A smooth finish can be obtained without the use of water or oil, typically 20 mins after mixing when best workability is possible. Heating can be applied to accelerate cure time. Thick applications cure faster due to the exothermic reaction of the reactants.



REXLINE™ CCO WEAR LINERS



As a genuine mining and quarrying wear liner support service, REXLINETM have excellent quality REXLINETM CCO plate and weld wires. The microstructure of Cr7C3 carbide volume fraction is 50% or more which makes it one of the reliable REXLINETM CCO Liners on the market. The REXLINETM CCO range also comes in Niobium enrich. composition to provide additional abrasion resistance

The REXLINE™ CCO plates can be:

- > Counter Sunk
- > Counter Bored
- > Manufactured to complex profiles
- > Fabricate and Roll Pip
- > Wear Bands

Performance Comparison Between UltraClad and Other Wear Plate

REXLINE supplies a wide range of chromium carbide and complex carbide overlay plates. Typical standard formats and Custom formats are supplied. Overlay thicknesses vary from 3mm to 30mm depending on the thickness of the base metal. Plates can also be cut to size, shaped and rolled according to customer specifications.

| Item | Hardness (HRC) | Max service temperature | Abrasion | Impact | Processability | Service life |
|---------------------------|----------------|-------------------------|----------|--------|----------------|--------------|
| Steel Plate | 35-55 | Low | * | * | ** | * |
| Hardox | 37-57 | 600 | ** | ** | *** | ** |
| NM | 33-42 | 600 | ** | ** | *** | ** |
| Standard Overlay Plates | 58-62 | 600 | ** | *** | ** | *** |
| REXLINE™ UltraClad Plates | 65-67 | 600 | *** | *** | ** | **** |

REXLINE™ CCO WEAR LINERS

Rexline™ CCO Plate vs Open Arc Welding

- >> Our REXLINE™ CCO's are manufactured using the Submerged Arc welding process which is a much more controlled process.
- >> The difference between submerged arc welding and regular arc welding is that the welding wire, arc, and weld joint are covered by a layer of flux.
- >> The liners produced using the Sub Arc process has higher wear resistant properties compared to the Open Arc Welding Process.

Rexline™ CCO Advantages:

- >> One of the top advantages of submerged arc welding is that it prevents hot materials from splattering and splashing onto workers.
- >> Another benefit is that the flux prevents high levels of radiation from being emitted into the air.
- >> This application is excellent for quickly welding together metal sheets and creates a secure fusion between welds.
- >> This application also produces high productivity, fast travel speed, high repeatability, and quality results.

Rexline™ CCO Bucket Liners

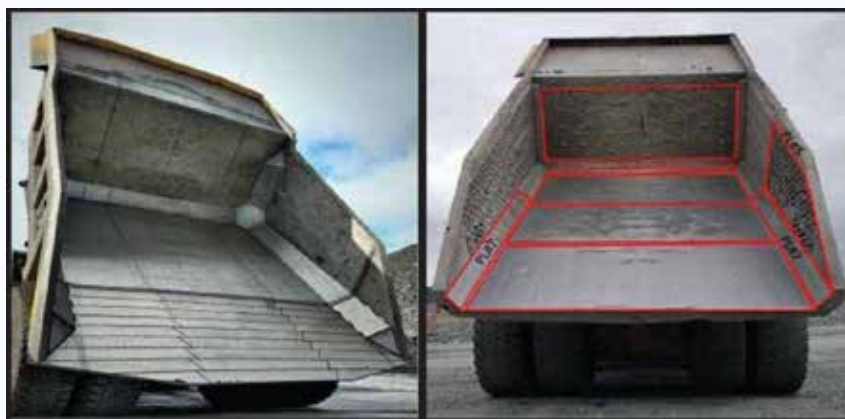
The REXLINE, Bucket loader wear plates (REXLINE, CCO) will outlast quenched and tempered steels by up to 12 times and white iron by up to 4 times.

The wear plates maintain the efficiency of chutes, bins, hoppers, buckets and other material handling equipment because it is quickly polished by abrading materials.



REXLINE™ CCO WEAR LINERS

Rexline™ CCO Truck Bed Liners



Problems & Challenges

Rexline Engineering can take up the challenge to design an effective liner package for truck body to overcome the localised wear issues and meet the miner's productivity, performance and reliability requirements.

A truck and shovel operation, the mine operates Komatsu model's 785 off-road haul trucks, fitted with Komatsu OEM bodies. Commissioned in Polavaram, India both truck fleets were operating well within Komatsu's operational parameters however the aging bodies on the fleet of 400 trucks were no longer economic to maintain. The site maintenance team were concerned about the productivity losses stemming from the trucks' unscheduled maintenance and repair requirements.

Hauling trucks/Excavator Buckets have the standard designed body with the wear package which are normally heavier than the recommended gross mass of body.

The challenge for Rexline Engineering Reliability and Engineering team was to design and manufacture a truck body that would be compatible with the Komatsu 785 truck, overcome the localised wear issues and meet the miner's productivity, performance and reliability requirements.

The data required to recommend the suitable product for the application

- > Photos of the current high wear areas
- > Current liners used – Brand
- > Current liners chemical compositions
- > Current liners physical properties
- > The bucket and Truck tray drawings
- > Thickness of the liners
- > Service life data and any history
- > Type of ore
- > Total weight added to the trays and the buckets
- > Current methodology of fastening

REXLINE™ CCO WEAR LINERS

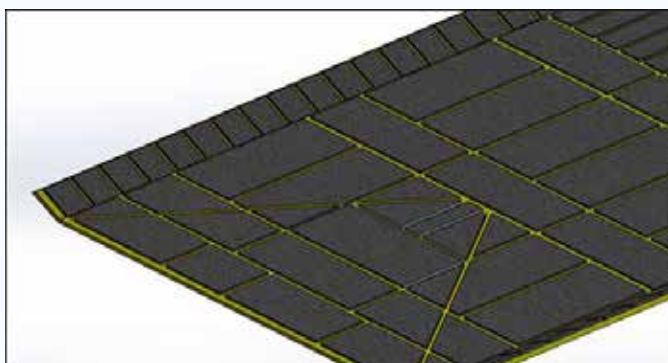
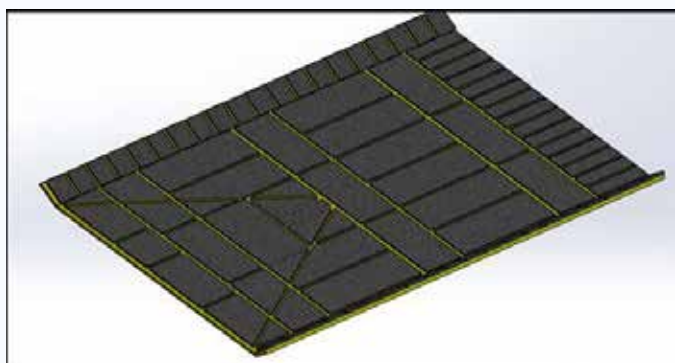
Our Solutions

The client provided with comprehensive Rexline Engineering documentation which included details of the unique site-based requirements and key performance indicators (KPIs) the miner had for the replacement bodies.

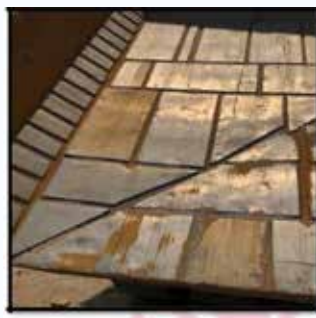
Armed with this information, along with OEM dimensions around total truck weights, operating weights, optimum load characteristics and feedback from site personnel, Rexline Engineering designed and fabricated an SAWT ULTRACLAD liner kit, fully customised to maximise payload capacity, to fit the KOMATSU 785 chassis.

Our engineering and project management team in conjunction with our client will execute a full potential project to identify weight reduction strategies, wear life extension and reduce downtimes.

As part of the design, the wear material was substituted for a more fit-for-purpose product and the effective liner arrangement was proposed which further would enhance the cost savings. The team identified the opportunities and was engineered, proven and passed through a change management process and once all stakeholders agreed and approved, the initiatives were then implemented.



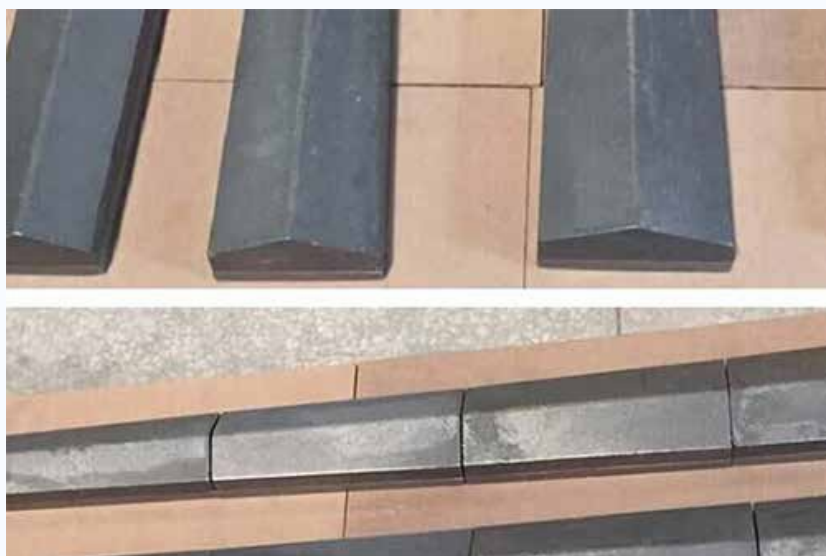
Inspection after 14 months of Installation



Liners are still in good condition; the wear is very minimal and no major cracks on plate. Several chipped plates were observed. This is due to the transfer of heat from underneath the truck body where the main exhaust is situated.

IMPACT PROTECTION

DuraWear Ni Hard Billets, Liners, Buttons, Bars



- > Bimetallic wear plates
- > Chocky bars and wear buttons
- > White iron wear blocks, wear bars
- > Microledges
- > Bimetallic wear pipes/Liners
- > Bucket protectors
- > Tungsten carbide wear parts
- > Ni-Hard wear parts
- > Skid Wear Bar

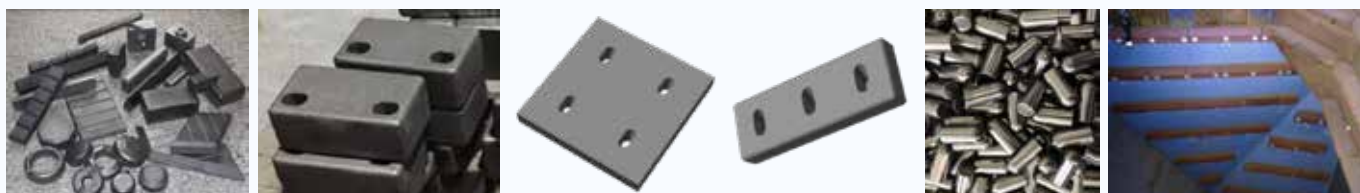
Laminated Wear Blocks are unique wear resistant materials in that they combine very high wear resistant qualities of white iron (ASTM A532 15/3CrMo, 700BHN – 63HRC) with a weldable & high impact toughness mild steel through a metallurgical bond to create a product that has a exceptional resistance to impact and abrasion.

Ni-Hard material also comes in Hard skirt format with different shapes and sizes depending on the application. The additional chromium content enables the skirts to withstand extended and continuous abrasion in the application.

Features & Properties

| Ni-Hard composition (%) | | | | | | | | | | |
|-------------------------|-----|-----|-----|-----|-----|----|------|------|-----|------------------|
| | | C | Si | Mn | Ni | Cr | S | P | Mo | Brinell Hardness |
| DuraWear | Min | 3.2 | 1.5 | 0.2 | 4 | 8 | 0.12 | 0.15 | 0.5 | 630 |
| | Max | 3.6 | 2.2 | 0.8 | 5.5 | 10 | Max | Max | Max | Min |
| DurawearPro | Min | 2.6 | 0.6 | 1 | 4 | 26 | 0.12 | 0.15 | 1 | 650 |
| | Max | 2.8 | 0.8 | Max | 5.5 | 28 | Max | Max | Max | +/-25 |

- > Tensile Strength: 630 Mpa (min)
- > TShearing Strength: 250 Mpa (min)
- > THardness: 63 HRC



MOBILE IMPACT CRUSHING STATION

Mobile Impact Crushing Station and Conveyor System for Stock Pile



TELESTACKER MOBILE CONVEYOR LOADING



MOBILE LOADING CONVEYOR



MOBILE LIGHTING POLES

MOBILE CONVEYOR LOADING



RETROFIT MOBILE LOADING CONVEYOR

TRIPPER CAR & MOBILE CONVEYOR SYSTEM

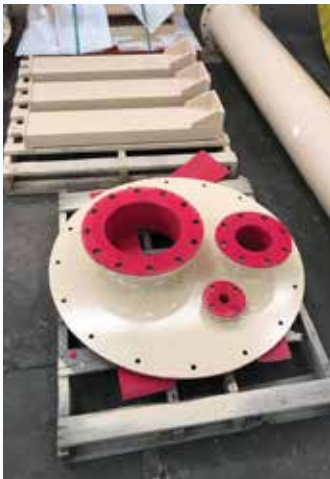


DESIGNED
FABRICATED & COMMISSIONED
by **REXLINE**



HEAVY CHUTE TRANSFER POINT ROCK BOX MANUFACTURING

IRON ORE INDUSTRY IN AUSTRALIA



SCREW FEEDER FABRICATION & LINING



SCREW FEEDER NICKEL MINING & OPERATIONS



MONITORING SYSTEM

Condition Monitoring System



Rexline's Condition Monitoring System represents the very latest state-of-the-art in steel cord belt condition monitoring. The Condition Monitoring System uses a patented high-resolution Roller Transducer to detect belt carcass and splice damage. When employing high-resolution Transducers to detect such damage, it is essential that the Transducer be as close to the cords as possible and that the belting be dynamically stable, vertically.

Damage Detected and Quantified Includes:

- > Broken cords
- > Rusted or corroded cords
- > Kinked cords (vertical plane)
- > Fatigued cords (if cords have discontinuity in filaments consistent with plastic deformation and ductile failure)
- > Missing cords
- > Splice anomalies, using magnetic signature comparison

Accurate location and quantification of damage is achieved without the need to stop the conveyor for visual inspection. The belt carcass is magnetized during scanning, leaving a magnetic 'fingerprint' in the belting, which aids in exact location of Events of Interest, if belt maintenance is needed. There is no limit to belt width, length, speed or product conveyed.

As well as data on demand, the Belt Scanner offers a 24/7 Disastrous Event Detection (DED) feature, where the belt condition is continuously monitored against a user-defined level of damage. If this level is exceeded, the conveyor can be stopped. A Programmed Parking option allows belt maintenance personnel to park the belting automatically where they want, for belt repairs etc., in a splicing station.

MONITORING SYSTEM

Hardware

The Belt Scanner system consists primarily of



1. Roller Transducer and Integrated Tacho



3. Termination Enclosure and Flexible Steel Conduit



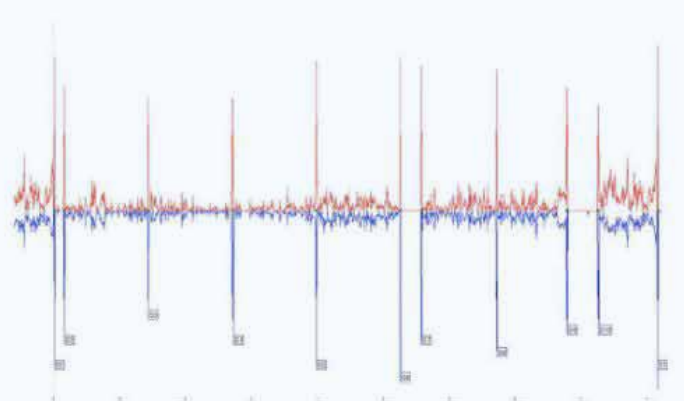
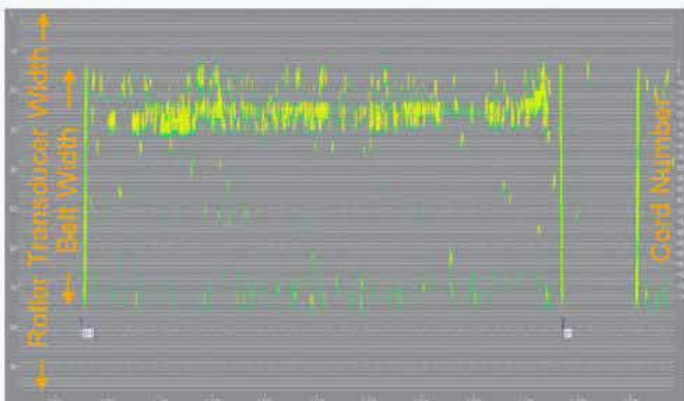
2. Main Electrical Enclosure (MEE)



4. 2 Magnet Bars

Software

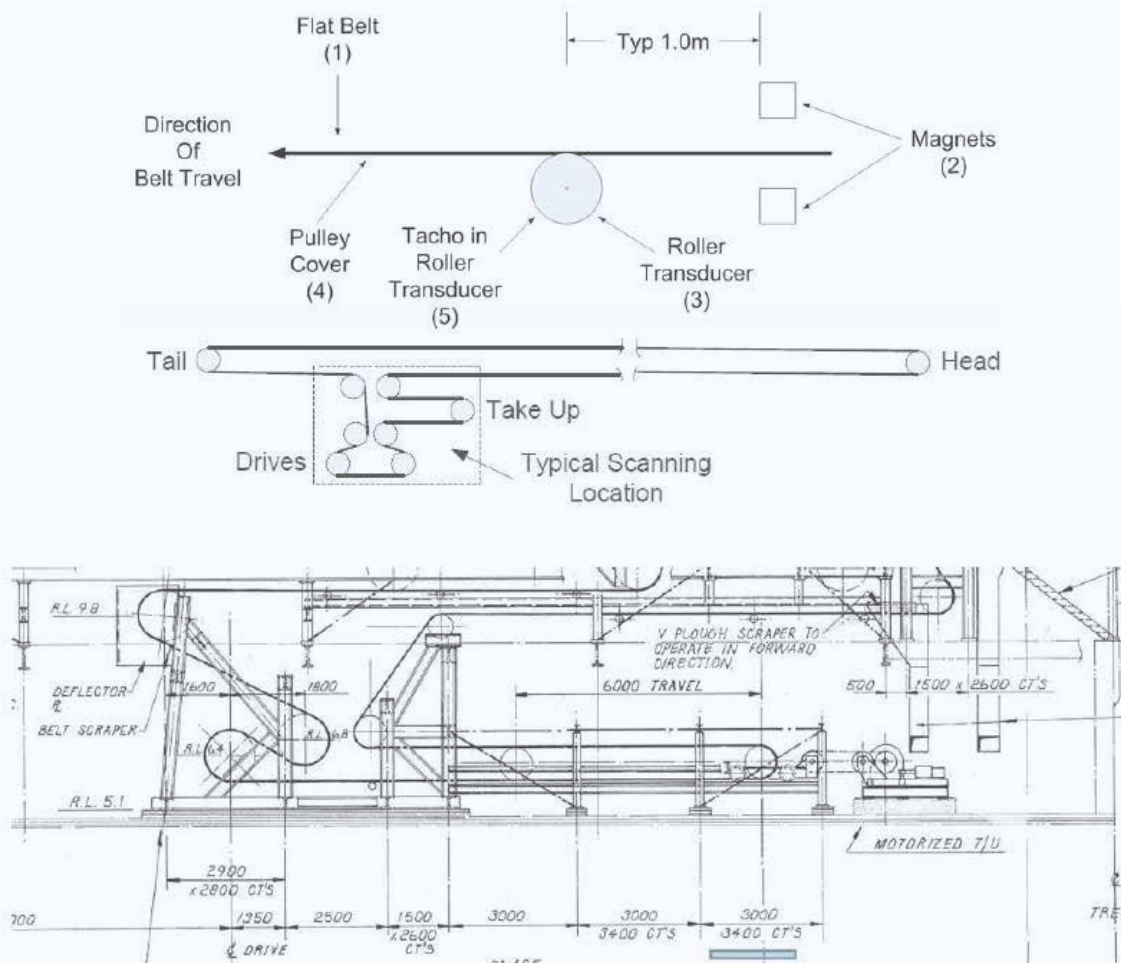
The Condition Monitoring System is a software-based device. All device configuration and operation is performed under proprietary software which runs on Windows 98 – Windows 8. Data Analysis software is available, which also runs on Windows.



MONITORING SYSTEM

Device Location

The Condition Monitoring Roller Transducer is non-magnetic and is located in a flat section of belting, in contact with the Pulley Cover, where it is used to provide belt stabilization and to ensure minimum transducer-to-cord distance.



The 24/7 version of the Belt Scanner employs a Main Electrical Enclosure (MEE), which consists of a stainless steel enclosure (IP69K), containing the system power supply, electronics and communication module. The MEE communication module allows connectivity with the system, either at short range via serial or Ethernet data cables, or long range over the Internet via a Mobile Broadband service, or site LAN via VPN.

It is strongly recommended that the MEE be located inside an electrical substation or similar building, away from direct sunlight and wash down. Where this is not possible, integrated weather shields can be built onto the enclosure.



MONITORING SYSTEM

Maintenance

The Condition Monitoring equipment requires very little maintenance other than general housekeeping by ensuring the system is kept relatively free from product build-up etc.

Visual inspection should be carried out on a regular basis to confirm all mounts are secure. Light hose down is recommended on a regular basis. The Roller Transducer needs to be checked regularly to ensure it is still in intimate contact with the belting. Build up of product on the Roller Transducer will degrade the data quality.

Technical Specifications

Technical specifications vary with each system supplied, therefore the values shown below are for a typical system.

| Roller Transducer | |
|-------------------|-------------------------------------|
| Construction | Stainless Steel |
| Dimension | 140.0 (Dia) x 1,500 (L) mm * |
| Net Weight | 60kg* |
| Operating Temp | 13 ~ 158°F(-25 ~ 70°C), 5 to 95% RH |
| Storage Temp | 40 ~ 176°F(-40 ~ 80°C), 5 to 95% RH |

| Magnet Bar (per each) | |
|-----------------------|-------------------------------------|
| Construction | Stainless Steel |
| Dimension | 40.0 (H) x 40.0 (W) x 1,500 (L) mm* |
| Net Weight | 9kg* |
| Operating Temp | 13 ~ 158°F(-25 ~ 70°C), 5 to 95% RH |
| Storage Temp | 40 ~ 176°F(-40 ~ 80°C), 5 to 95% RH |

| Main Electrical Enclosure (MEE) | |
|---------------------------------|-----------------------------------|
| Construction | Stainless Steel IP69K |
| Dimension | 400 (H) x 400 (W) x 250 (D) mm |
| Net Weight | 20kg* |
| Power Supply | 110 / 240 VAC 50 / 60Hz or 24 VDC |
| Power Consumption | 10W |
| DED Output | Relay, Form C – 5A 240 VAC |
| Relay Action | N.O. |

* varies from system to system.

MONITORING SYSTEM

Rip Detection Systems



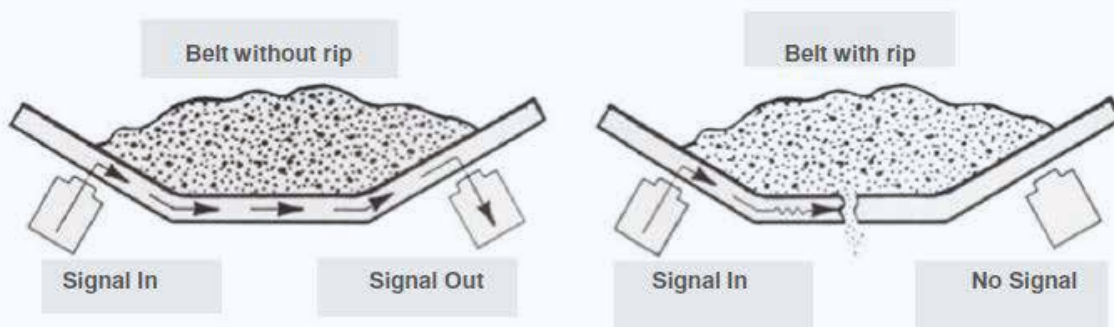
Rexline's Rip Detection Systems represent the latest in acoustic-based longitudinal conveyor belt rip detection systems. Longitudinal rips are one of the most disruptive problems faced by operators of steel cord conveyor belting and Rexline's acoustic-based systems have been providing reliable protection against these issues for many years.

It is unique in that it can be fitted to most steel cord conveyor belting without modifying the belting. No sensor loops or antennae are required.

Principle of Operation

The Rip Detection System injects acoustic energy into the target belting, at the sensing location and this energy propagates across the belt using the rubber and steel matrix as the transmission medium.

The energy is injected by a transmitter transducer and sensed by a number of receiver transducers, located at various positions across the belt. When a longitudinal rip occurs between the transducers, the level of acoustic energy arriving at a receiver is either reduced or lost completely. This reduction of energy level is used to detect the rip.



MONITORING SYSTEM

Hardware

The 'front end' of the device consists of a number of transducers (maximum of nine), installed equidistant laterally across the belt. These transducers contact the underside of the belting and are biased against the surface using spring loaded mounts.

These mounts are fitted to a main transverse support, which is purpose-built for each conveyor structure. Once a mount's lateral location is established it is adjusted for height. The mounts are designed to minimise product build-up and embody 'parking' pins so that a transducer can be locked away from the belt surface, to facilitate maintenance. The lateral separation of the transmitter and receiver transducers (transducers are interchangeable), depends on the construction of the belt.

Different types of belting provide different characteristics, as far as acoustic transmission is concerned, however, most common steel cord belting, including M and N grade, B grade, SAR and LRR compounded belts are good hosts. Typical lateral transmitter-to-receiver separation on the above compounded belts is in the range 300mm – 700mm. This separation, together with the belt width, will dictate how many transducers are required to span the active portion of the belting. The number of transducers required to span the belting will determine the cost of each system.

The transducers are replacement items as they are contact components. Transducers can be replaced easily via one M12 mounting bolt and two plugs and sockets and a re-build service is available to minimise cost of transducer replacement. Typical transducer life is in the range nine months – five years.

Each transducer incorporates sophisticated onboard electronics which monitor and log all 'vital' life signs and relay this information back to the Main Electrical Enclosure (MEE).

Transmitter and receiver electronic modules are sited close to the sensing location and a single multi-function cable is run to the MEE. These modules are housed in IP 68 rated 316 stainless steel enclosures and a tachogenerator is also fitted to a local idler roller.

The MEE is a stainless steel IP 69K rated enclosure and contains the power supply, motherboard, memory and communication modules. A dedicated single phase electric mains supply of 110VAC / 15amp or 240VAC 10amp is required for the MEE.

Software

The Rip Detection System is software controlled. All machine parameters are adjusted and monitored in software. Important machine operational parameters are given 'windows' during commissioning. Any violation of a window is logged, established as an "Alarm", and passed on to appropriate personnel via e-mail or SMS, as provided for during set-up. There are various levels of Alarms, so the nature of an Alarm can be assessed and sent only to the appropriate destination, minimising inconvenience. All receiver data and events of interest are logged and may be downloaded for analysis.

Software updates can be downloaded 'live', no technician site visit is necessary. To achieve this, the device MUST be connected to the Internet. This can be done via Third Generation (or later) mobile phone networks or a site LAN/WAN using an Ethernet connection.

MONITORING SYSTEM

Device Location

The transducers and mounts are normally located just downstream from the last load point. This site is chosen as the primary location because experience suggests that most longitudinal rips occur at a load point. It should be noted that this is not always the case, so consideration should be given to multiple locations, including horizontal curves and inside transfer buildings. The MEE is usually located in an electrical sub-station or similar, away from direct sunlight and severe hose down.

Maintenance

- >> Maintenance is usually limited to transducer replacement and this has been covered under HARDWARE. With this in mind, transducer change-out has been designed to be as simple as possible. No unusual tools are required and no special skill set needed.
- >> The mounts are extremely reliable and durable, but again, can be easily replaced if necessary.
- >> All enclosures are IP 68 rated, or better, and are fabricated from 316 stainless steel.
- >> All electronics have been designed and built with their intended use in mind.
- >> Short circuit and over voltage protection is standard.

Troubleshooting

- >> The device is a mature product. It has been rigorously tested over many years and is very robust and reliable.
- >> A video surveillance camera is usually fitted at the sensing location as part of the installation so that events, such as false trips, can be observed and/or recorded and then correlated with machine data to facilitate troubleshooting.
- >> Occasionally mobile phone networks suffer outages. This will not effect the operation of the machine, if this is the primary method of Internet connectivity, but will prevent alarms and diagnostic data from being sent and downloaded for analysis.
- >> Because the device does not need a full-through rip to operate, aggressive setting of the Trip Threshold can see the device trip on partial depth rips.

MONITORING SYSTEM

Rexline's Cover Care



Rexline's Cover Care is a device specifically created to facilitate spot measurement of the cover thickness in steel cord conveyor belting. It was created out of frustration created through the common use of ultrasonic-based devices to make this type of measurement. While ultrasonic devices are appropriate for use over a wide range of non-destructive testing, the measurement of cover thickness in steel cord conveyor belting is problematic.

The Cover Care is an inductive-based device, which makes this type of measurement very simple and very accurate.

It is a fully portable instrument which is powered by a re-chargeable internal 12Volt-1.3Ah battery and has an endurance of approximately nine (9) hours on a full charge. It uses an inductive hand-held probe to detect the steel cords. The output from the probe is delivered to a microprocessor which calculates the distance of the probe face to the top of the cords, using a unique algorithm or 'Cover Care Belt Profile' and displays the value in mm on an easy-to-read display.

Unlike ultrasonic instruments used for the same purpose, no coupling medium is necessary and the measurement accuracy is not affected by changes in ambient temperature.

Measurement is in the range 0.0mm – 50.0mm and resolution is +/- 0.1 mm.

Calibration of the instrument is simple and unambiguous, using a small sample of the target belting and plastic shims.

Cover Care Belt Profiles can be stored in any convenient file folder on a Laptop, PC or external USB memory device. Communication between the instrument and computer is via USB.

MONITORING SYSTEM

Remaining Cover Thickness



Rexline's Remaining Cover Thickness (RCT) Monitor is an on-line device and can measure the remaining cover thickness of either the carry or pulley covers of Steel Cord belting, running under normal operating conditions.

The device comes in two forms:

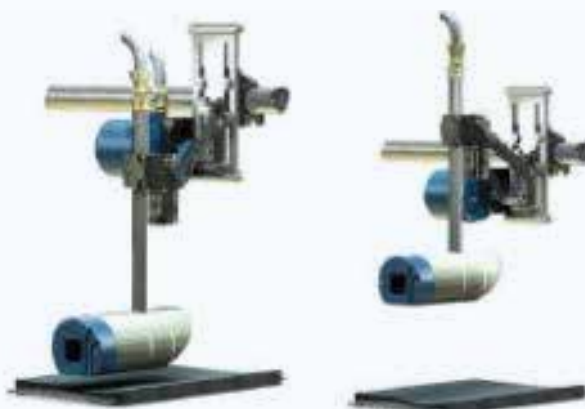
RCT Basic

This model is designed to be permanently fixed to a conveyor structure, with the underside of the Sensor Head 30.0 mm above the surface of the steel cords. After installation and calibration, it produces a continuous 4 – 20mA signal output proportional to remaining cover thickness.. This signal is easily integrated into a site SCADA system. In new belting with say 15.0 mm carry cover, this places the Sensor Head 15.0 mm above the surface of the belt.

RCT Alpha

The RCT Alpha has a "Safe Parking" feature, which allows the Sensor Head to be retracted to a parked position 160 mm from the belt surface, when not required to make measurements.

Cover wear rate in belting is relatively slow, even in short-cycle belts. This means that measurements need only be taken in weekly or monthly. Even then, usually two belt cycles provide sufficient data for trending purposes. This means that the RCT Alpha can be parked for most of its life cycle.



MONITORING SYSTEM

RCT Alpha is a very sophisticated device and is designed to communicate with the site over a Network connection and TCP. All data is logged on board in non-volatile memory, where it is available for download and analysis. A Tacho and belt Lateral Position Indicator (LPI) are included, which provide longitudinal and lateral belt position data, which is also logged.

The "Safe Parking" function can be either manual or automatic. In automatic mode, the device can be programmed to make its measurements at a nominated time and date, say the third day of every month at 10pm, for example. Firmware uses the LPI and a user-defined lateral 'window' to deal with the issue of belt wander.

After a defined interval, usually two belt revolutions, the device automatically parks and waits for data download instructions. The RCT Alpha comes with Proprietary software, which runs on the Network under Windows 98- WIN7. This allows device configuration and calibration as well as data download / viewing , including export of data to any destination as .CSV files.

There are two 4 – 20mA outputs, re-transmitting remaining cover thickness and belt lateral position. As with the RCT Basic, there is in-built Collision Reduction.

General

Both devices mount off a transverse steel tube, attached to the conveyor structure. This allows them to be positioned anywhere across the belt width. The sensing location is typically over the Tail Pulley.

The target area or 'footprint' being sensed is +/- 100 mm square. This means in a running belt, a 'strip' of belting +/- 100 mm wide is being measured. This being the case , it is essential to have the device located over the area of maximum wear across the belt. This location is determined from historical (or current) static belt cover profile measurements.

In the RCT Alpha, the LPI senses belt wander so that it is possible to limit data capture to the desired strip of belting.

Either device can be AC or DC powered.

The on-belt hardware is rated IP67 and IP68.

The electrical enclosure is 304 stainless steel, rated at IP69K (NEMA 4x).

All cabling is run in Anaconda Type EF Grey flexible steel conduit, rated at IP67, including fittings.

PORTABLE WEIGHING SYSTEM

Solution provider for complete range of industrial electronic weighing and material handling equipment & systems, including, design, sales and service with state of the art electronics from reputed multinationals from all over the globe.

| # | Product | Variants |
|---|----------------------------|---|
| 1 | Truck Weighing | Portable / Axle Weighers |
| 2 | Process Weighing | Belt Scale, weigh Feeders, Solid impact flow meters, Coriolis / Rotor feeders, loss in weight feeders etc |
| 3 | Onboard Weighing | Wheel Loader, Excavator Scales and Truck scales |
| 4 | Bagging System | Complete Range of Bagging Systems for open mouthed and valve type bags and Jumbo bag bagging machine |
| 5 | Static Rail Weighing | Hot Metal Ladle / Coke oven charging, including for high temperature applications upto 250°C and wagon weighing |
| 6 | Access Control System | Barriers, Turnstiles and RFID Products |
| 7 | Material Handling Products | Steel / Nylon Idlers, complete conveyors and Conveyor belts |

Portable Single Platform Weighing

Key Features:

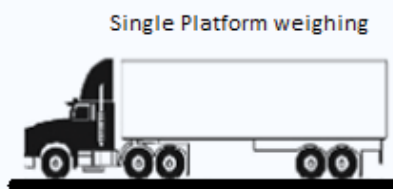
1. Portable weigh bridge of 7.5 x 3 or 9 x 3m platform with 6 load cells.
2. Excellent long term solution & repeatable accuracy. Supplied with Ramps.
3. Very sturdy and accurate - Bases are joined and even with high steel usage, its not movable
4. Portable easy to handle. Can be easily dismantled and shifted
5. Single platform weighing



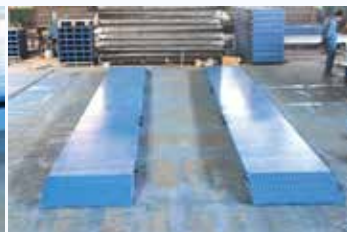
Touch Screen
Indicator



Low profile Compression
Load cell



Dual Track Portable Weighbridges



PORTABLE WEIGHING SYSTEM

Portable Multiplatform Weighbridges

Key Features:

1. Designed for multi draft weighing / axle weighing.
2. Different Platform sizes are made to suit the application as multi platform static/Axle Weighing & Portable weigh bridges.
3. Requires only levelled surfaces and not RCC foundations.
4. The weigh Bridge & controller with built in Printer can be shifted anywhere and used.
5. Each platform can be configured up to 40t Capacity and any permutation & combination of Vehicles can be weighed.
6. The Accuracy will be $\pm 20\text{Kg}$ as Multi-platform Weigh Bridge. Axle weighing Accuracy $\pm 40\text{Kg}$.



Weighpad based concrete/bulk cement/flyash loading weighbridge

Key Features:

1. They do not require a Solid foundation as required by the standard weigh bridge.
2. Any Levelled concrete surface can accommodate these pads as weigh bridge.
3. In concreting operations, the vehicles plying have standard Wheel bases & no of axles and the Discharge Chute position is fixed. Hence you may make small pits of 40mm & place all the pads as per wheel centers. The vehicle will stand on these pads, the Indicator will tare of the vehicle & the Loading Starts.
4. The target weight can be set on the Indicator & the same will give a 4-20mA output for PLC control, for controlling the Loading operation.



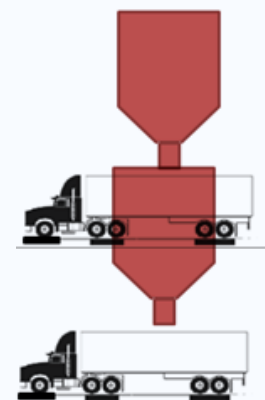
Heavy duty Weigh Pad
800 x 500 x 58mm



Indicator for Loading application
With 4-20mA Output



Installation of 700 x 430 x 35mm
Light Duty Weigh Pads



PORTABLE WEIGHING SYSTEM

Weighbridges Installation



Fixed Type Weigh Bridges

Standard Dimensions

7.5 x 3m
9 x 3m
12 x 3m
14 x 3m
16 x 3m
18 x 3m
20 x 3m

Non Standard Dimensions

16 x 3.5m
18 x 3.5m
20 x 3.5m

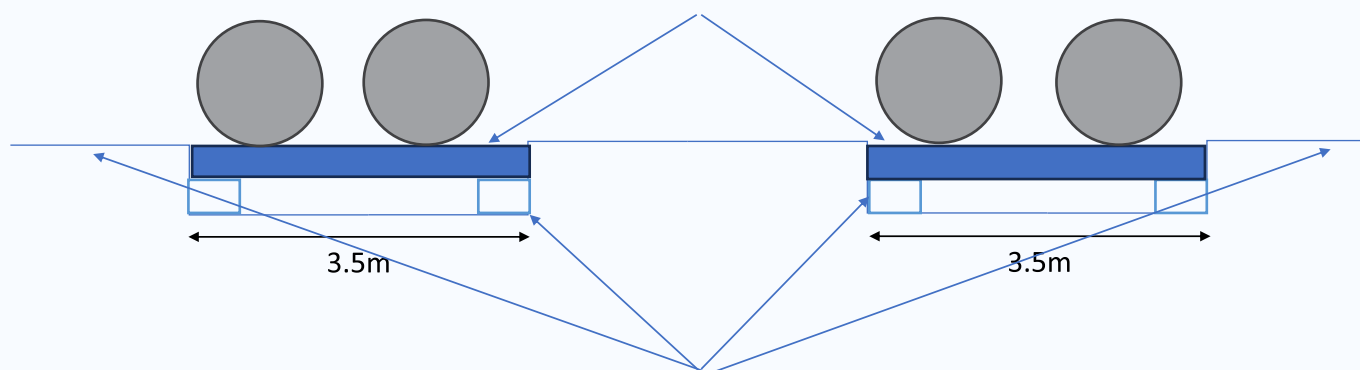


Design as per customer requirement including for Off Road Dumpers

PORTABLE WEIGHING SYSTEM

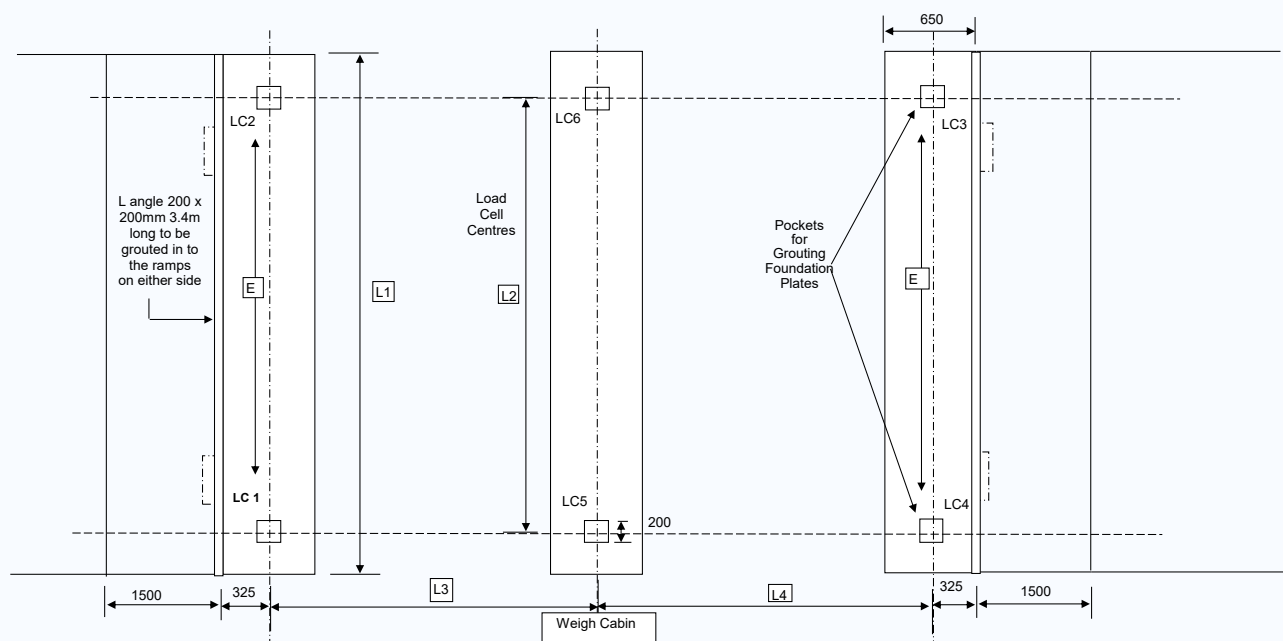
Portable Weighbridges Drawing

Portable Weigh Bridge, Dual Platform 3.5 x 3m 2 Nos



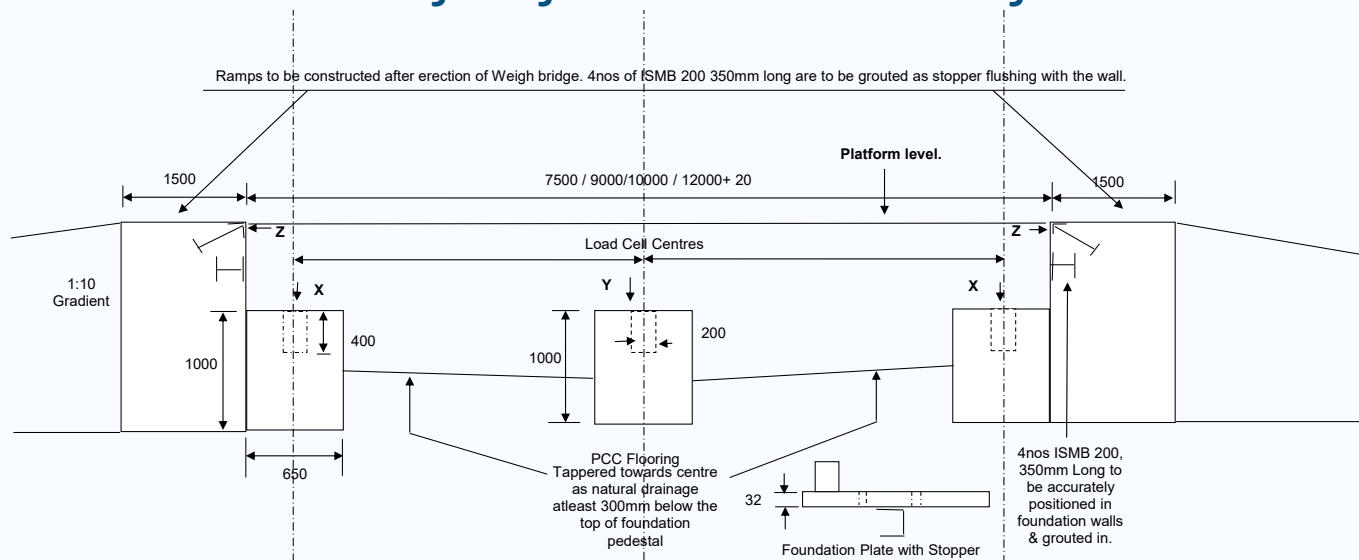
Concrete Levelled surface with 2 PITS.
Should be 10m Long & 3.5m Wide, atleast
150mm Height, depending upon the Soil
Bearing Capacity

Weighbridges Fabrication & GA Drawing

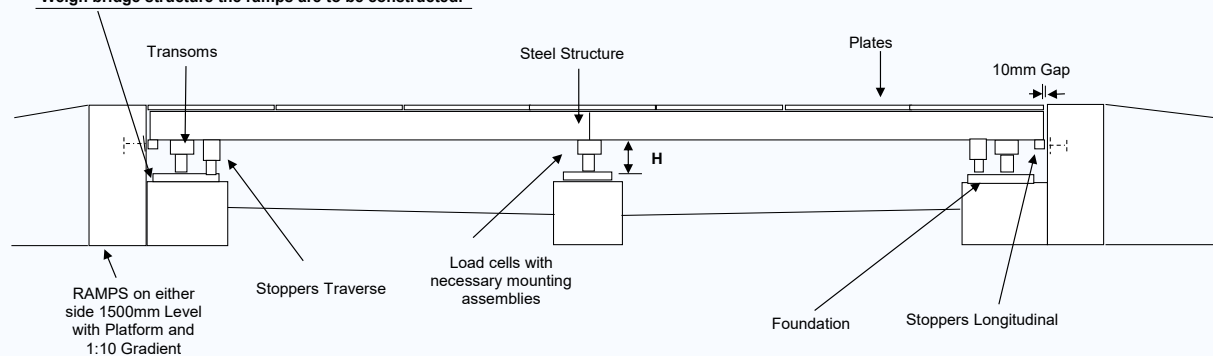


PORTABLE WEIGHING SYSTEM

Weighbridges Fabrication & GA Drawing



Foundation to be completed upto this level and only after erection of Weigh bridge structure the ramps are to be constructed.



Drawing No: Mass 107 - A
Date : 25.10.2007 By: VS
Approved by:

DIMENSIONS OF VARIOUS PLATFORM SIZES

| | 9 x 3 m | 12 x 3m | |
|----|---------|---------|---|
| L1 | 3400 | 3400 | Dimension H For Compression LCs - 235mm |
| L2 | 2500 | 2500 | Compression LP LCs - 160mm |
| L3 | 4185 | 5685 | Double ended SB LCs - 251mm |
| L4 | 4185 | 5685 | |

Instructions:

1. PI do not scale this drawing.
2. All dimensions are in mm.
3. Necessary Civil drawing based on the soil bearing capacity is to be prepared by competent architect, to suit the site and soil conditions.
4. All levels and dimensions of the drawing are to be accurately maintained.
5. All centre lines are to be marked on the foundation before handing over to our engineers for erection.
6. All grouting work to be carried out with M20 or stronger grade concrete mix. Ready mix concrete of major cement companies may also be used.
7. Required conduit pipes - flexible & GI, curbing angles 200 x 200mm 3400mm long 2 nos and ISMB 200 350mm long 4 nos and foundation plates MS 32 x 350 x 450mm 6nos are to be provided by customer.
8. Load at different locations are given below for maximum weigh bridge capacity of 60t:

X direction on LCs 1, 2, 3 & 4 = Vertical 28.5t
Y direction on LCs 5 & 6 = Vertical 30.6t

Z direction on each 4 points on Curbs = Horizontal 7.3t
E direction on 1 & 2 or 2 & 3 not simultaneously = 4.5t

BELT SCALE

Conveyor Weighing with Unique features

Key Features:

- >> Fully electronic, no lever or parallelogram system.
- >> Idler brackets directly mounted on load cells
- >> Special design load cell mounting assembly for garland type idlers.
- >> Speed encoder with 1024 pulses per revolution for very accurate speed measurement. As low as 20 Kg
- >> load cells for low flow rate belt weighing.
- >> Repeated long term accuracy of better than $\pm 0.5-1\%$ on fixed conveyors and 1-2% on mobile screening and crushing equipment including loco-tracks.
- >> State of the art Controller with DI/DOS & interlocking features
- >> **Remote production monitoring - optional feature - by SMS or Cloud real time monitoring.**
- >> **Optional, Tamper Proof features.**

Conveyor Weighing



Load Cell mount for Garland idlers

BELT SCALE

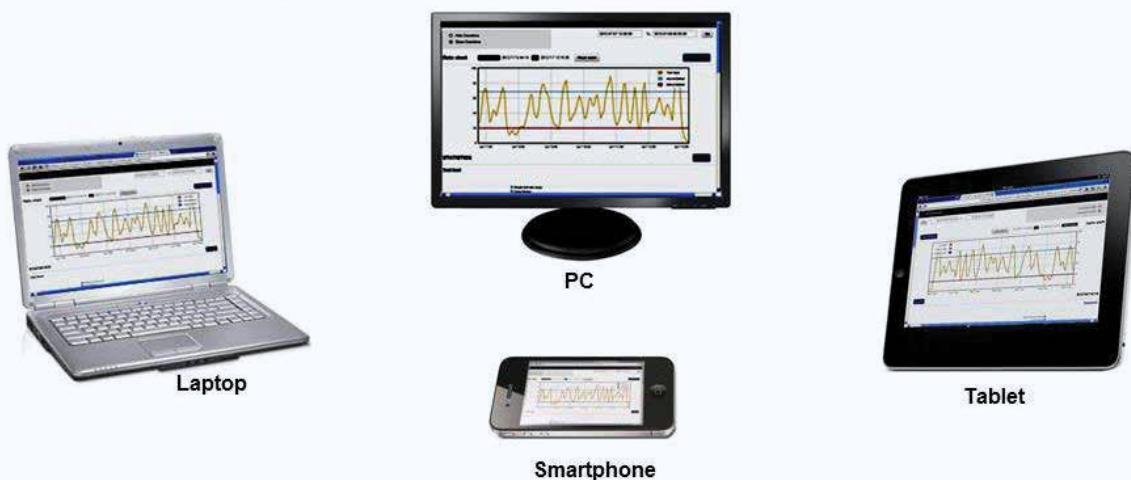
Cloud Monitoring

- >> Live Flow rate totals & Speed
- >> Graphical representation
- >> Report generation
- >> Select any data & time range
- >> Track belt down time production stoppage etc



Plant Connect Possibilities

Login from any internet capable device



BELT SCALE



MATERIAL HANDLING EQUIPMENTS

Belt Weigher

PT Rexline Engineering Indonesia manufactures microprocessor based electronic belt weighers incorporating the latest state-of-the-art technology for continuous weighing applications in cement, steel, chemical, petrochemical industries and coal handling plants.



Prayas
Engineering Ltd.



Belt Weighers consist of three major elements:

- > The weigh bridge assembly with precise strain gauge load cell/bending beam load
- > The belt speed sensor assembly, and the electronic cabinet often referred as the totaliser or the integrator

Each serves a distinct function in the process of accurately weighing material moving on the belt. Different models of scale carriage are available depending upon the application, scale capacity and belt speed.

1. Capacities from a fraction of tonne to 10,000 TPH.
2. Simple rugged and unitized scale assembly for easy installation.
3. Super precision stainless steel strain gauge load cell applied in tension for highly accurate load measurement.
4. Special trunion bushes to absorb normal shocks and transverse forces.
5. Weigh idler deflection less than 0.025 mm at full load.
6. Brushless digital tachometer provides accurate measurement of speed.
7. Fully digital with microprocessor and battery back-up memory.
8. Fully automatic tare and span calibration.
9. Self-checking diagnostics for fault indications.
10. Special electronic calibration facility for frequent calibration checks without handling standard weights.

Salient features :

- >> Proven conveyor scale software for microprocessor based integrator.
- >> Micromate is a true digital device with digital readout, digital processing, bi-directional integration and totalisation and drift free operation.
- >> No internal adjustments by potentiometers.
- >> Automatic calibration of zero span and selectable auto zero tracking available (in zero track mode, tare is updated automatically whenever the belt runs empty.)
- >> Simple one time entry of data and instructions via pushbuttons and keyboard.
- >> Bright easy to read display of rate and total.
- >> Excellent temperature stability.
- >> Backed up by excellent PEL know-how and service availability.
- >> Standard execution : ± 0.5 % of actual rate.
- >> Special execution : ± 0.1 & 0.25 % of actual rate.

Accuracy:

- > Standard execution : ± 0.5 % of actual rate.
- > Special execution : ± 0.1 & 0.25 % of actual rate.

MATERIAL HANDLING EQUIPMENTS

Weighfeeder

PT Rexline Engineering Indonesia microprocessor based digital weigh feeders as per design of HASLER International-France, incorporating their state-of-the-art technology for continuous control and proportioning application in cement, steel, fertilizer, chemicals, petrochemical and other industries.



Principle of operation:

PT Rexline Engineering Indonesia Gravimetric weigh feeder is a variable speed small conveyor incorporating belt weighing and speed control system. The flow rate is held constant by varying the speed inversely with respect to belt load.

Set point controller (a built in feature in all Hasler controller) allows setting of required rate and provides a signal to raise or lower the speed of the belt.

For additional controls and communication facility, required signals are available from the weigh feeder control panel to connect it to a PLC or a supervisory computer either direct or using MODBUS/PROFIBUS etc. making it a part of distributed digital control system. Measurement of flow rate and control are all through 32 bit microprocessor based digital techniques ensuring high reliability and accuracy to the level of 0.25% which is not known in the industry presently.

For materials having sluggish flow characteristic mass flow bins, vibrators, screw feeders, rotary air lock feeders are provided to allow the material to lend themselves to control.

Salient features :

- >> Fully automatic zero and span calibration.
- >> Highly reliable 32 bit microprocessor based controller. with precise temperature compensated load cell for drift-free operation and control.
- >> Highly precise vibrating wire load cell with resolution of 1:1,000,000 . No calibration ever required for the load cell as also temperature compensated for life
- >> No field calibration of load cell required in case of digital load cell. In case of analog load cell simple calibration with static loads or by electronic calibration.
- >> Can be operated from any location viz: local panel, main panel or control room.
- >> Precision machined rollers used in weigh zone for achieving high accuracy.
- >> Rubber lagged crowned pulley is used to avoid belt slip.
- >> Digital speed sensor mounted on non drive pulley shaft to sense the actual belt speed.
- >> Choice of shaft mounted heli worm, or worm gear reduction provides trouble-free power at required speed if space is not a constraint.
- >> Suitable pre-feeders can be provided depending upon flow characteristics.
- >> Rigid heavy duty construction.

Accuracy:

- > 0.25% to 0.5% through out the control range of 1:10 and 1:20.

MATERIAL HANDLING EQUIPMENTS

Automatic Weighing & Bagging Machine

PT Rexline Engineering Indonesia manufactures electromechanical as well as electronic microprocessor based weighing and bagging machines for high speed automatic weighing and bagging of variety of materials such as fertilizers, food grains, sugar, cattle feed, PVC granules, cereals, coal, coke, chemical powder, flour, flakes, soda ash, etc.



Machines are designed and manufactured adopting the latest technological developments in the field of accurate weighing. The weighing and bagging machines are available in different models like gravity/belt/screw feeder or vibrating feeder tray. These machines are available as a net or gross model, in mild steel or stainless steel construction.

Electronic type microprocessor based automatic weighing & bagging machines incorporating highly accurate strain gauge load cells and latest state-of-the-art fully digital microprocessor controller are available for capacity upto 900 bags/hour with an accuracy of ± 50 gms or better over a range of 25 kgs to 100 kgs as well as jumbo bags of 1 tonne.

Salient features :

- >> Powerful 16 bit processor is used for electronic bagging machines.
- >> Different models available depending upon the flow characteristic of the material.
- >> Fully digital calibration and parameter set up per interactive dialogues for different weighing
- >> RS485 serial channel for printer, data output, serial communication.
- >> Parallel I/O interface with inputs and outputs, which can drive the magnetic valves directly.
- >> Operation and display terminal suitable for panel mounting or table top.
- >> Material flows after flow compensation for coarse and fine cut off. Thus the filling accuracy is independent of material density.
- >> Auto check stop feature available to check and remove the bags which are out of tolerance.

Accuracy:

- > Accuracy ranges from ± 20 grams to 100 grams depending upon material flow characteristics and bagging speed.

MATERIAL HANDLING EQUIPMENTS

Wagon & Truck Loader



Prayas
Engineering Ltd.



To solve the ever increasing problem with handling of bags in process plants, PT Rexline Engineering Indonesia has join hands with M/s. BOUBIELA of France to manufacture Wagon and Truck Loaders. Boubiela have got to their credit, thousands of satisfied customers all over the world manufacturing/dealing in Fertilizer/Sugar/Chemicals/Cattle Feed Plants/Food Corporations etc.

Different models of truck loaders up to a maximum capacity of handling 3000 bags per hour each of 50 Kgs. can be supplied for loading, stacking and lining up bags onto trucks. Wagon Loaders in different models upto 3000 bags per hour are also available. The loading jib is telescopic with 180° rotation and can be lifted by a mechanical or hydraulic jack.

Simultaneous loading of number of trucks as well as wagons on parallel track can be achieved with REI-BOUBIELA make Wagon and Truck Loaders.

Overband Self Cleaning Type Electro Magnetic Separators

A must for separation of tramp iron pieces and for avoiding interruption and damage to major equipment in the process plants like Coal handling Plants of Thermal Power Stations, Cement and Sugar Industry, Foundries, Fertilizers & Chemicals Industries, Food and Plastic Industries etc.



Prayas
Engineering Ltd.



PT Rexline Engineering Indonesia magnets are available in copper/aluminium coil winding with F/H Class insulation and suitable for belt width ranging from 400 mm to 2000 mm, operating heights upto 700 mm with lifting capacity of steel ball of diameter 25 mm and above with maximum weight of 50 Kgs depending upon shape and size of tramp iron pieces.

MATERIAL HANDLING EQUIPMENTS

Metal Detectors



Prayas
Engineering Ltd.



PT Rexline Engineering Indonesia manufactures metal detectors as per Boekels' design with latest technology incorporation integrating circuits, styroflex capacitors, metal film resistors, temperature compensated pot core transformers, active filters etc. These are widely used in:

- >> Mining and material handling/processing industries to prevent damage to crushers, mills, elevators, feeding devices.
- >> Chemical Industry to prevent damage to grinding mills and processing glass lined vessels and to avoid metallic contamination.
- >> Wood and timber industries to prevent damage to saws, chippers, particle board presses etc.
- >> Plastic and moulding Industries to prevent damage to press and moulds.
- >> Food, Tobacco, Tea & Pharmaceutical industries to protect kneading machines and presses etc. and also to inspect final product for metallic contamination.
- >> Clay and brick industries to protect moulds.

PT Rexline Engineering Indonesia Metal Detector consists of search coil unit and electronic control unit. These are available in various Models depending upon width of conveyor belt and burden height. Sand bag marker for spot locating the detected metal contamination and auto testing device for periodic checking of sensitivity are provided as optional accessories.

Shiftable Conveyors

PT Rexline Engineering Indonesia undertakes design and manufacture of conveyors from 600 mm to 2000 mm belt width. The conveyors can be supplied as horizontal conveyors, inclined conveyors, reversible and non-reversible shuttle conveyors, tripper cars and tripper conveyors. Special mobile conveyors can be designed for material stacking and de-staking application as also for barge loading.



Prayas
Engineering Ltd.

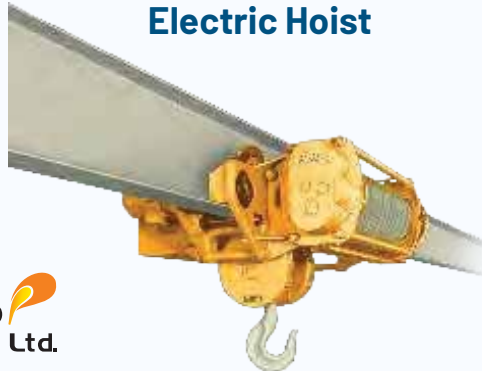


MATERIAL HANDLING EQUIPMENTS



Prayas
Engineering Ltd.

Electric Hoist



PT Rexline Engineering Indonesia electric hoists are designed in accordance with international standards and also as per “Rules for design of serial lifting equipment” issued by Federation of European Hoist Manufactures (FEM). Present manufacturing range includes hoist up to 16 tons lifting capacity.

PT Rexline Engineering Indonesia hoists incorporate fan cooled crane duty brake motor with class 'F' insulation, specially designed rope guide manufactured from polyethylene and hoist barrel with machine-cut grooves made from seamless tubes with high tensile strength. Gearbox or motor can be removed independently. PBL Hoists suitable for monorail and trolley drive - either for straight beam or curved beam - and double girder.

Belt Feeder



Prayas
Engineering Ltd.



Features :

- >> Heavy duty construction. Designed for rugged use
- >> Can be Fixed or movable
- >> Power transmission through electric motor and planetary gearbox, shaft mounted on the pulley with torque on the structure
- >> Primary cleaner and plow
- >> Drive Shaft and return pulley guards

Benefits:

- >> Ease of maintenance due to rugged design and features
- >> Easy to install
- >> Flexible due to fixed or mobile
- >> Long, Extended life
- >> Designed for maximum efficiency
- Economical

MATERIAL HANDLING EQUIPMENTS

Bucket Elevators

One of the most efficient way to elevate bulk materials vertically is with a bucket elevators.

A Bucket Elevator consists of a series of buckets attached to a belt or chain with pulleys or sprockets located at the top and bottom of the unit. The buckets are located in a casing or housing to contain the material. Bulk materials are loaded into each bucket as the bucket moves past an inlet point. PEL manufactures and designs wide variety of bucket elevators based on characteristics of the bulk material and process requirements.

Advantages of using Bucket Elevators:

- >> Designed to handle a wide variety of bulk materials-from average to very free flowing
- >> Completely Enclosed for Dust and weather Tight Operation.
- >> Easy to Install and Operate
- >> Low maintenance
- >> Inlet Section Can be Control Fed Or Flood Loaded with Bulk material.
- >> High reliability



Duplex Weighing and Bagging Machine

Our Microprocessor based load cell type Electronic Weighing and Bagging Machine Model NEM 50/II Twin Known for Faster Bagging rate and Accuracy. It Consists of Two Separate Hopper and two separate Weighing Receptacle with Single Sack grip.

The Whole weighing receptacle assembly is hanged in such a way that the total load of receptacle is passed on to the four Loadcells. In turn the load cell generates an electrical systems equal to weight. This signal is fed to Microprocessor Controller that process this signals and accordingly control all function of weighing process .Due to Introduction of Loadcells, the System accuracy is improved and with the help of microprocessor the whole System becomes a closed loop System making it more precise compare to open loop system.

The Above System has additional Facilities of having display of each and every weight, error signals display on fault occurrence, a self diagnostic feature and an optional online printing facility in case if it is required.

Accuracy:

Accuracy ranges from ± 20 grams to 100 grams depending upon material flow characteristics and bagging speed.

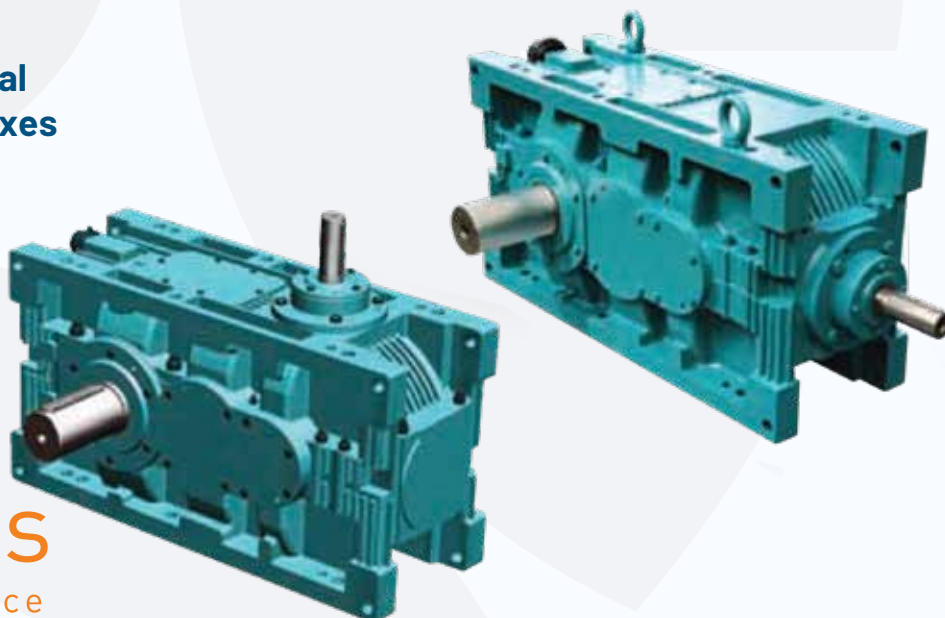


MATERIAL HANDLING EQUIPMENTS

GEARBOXES

**EOS Series –
Universal Mounting Helical
and Bevel Helical Gearboxes**

ELECON
EOS Series
The Aura of Excellence



For more than 60 years Elecon has been gearing economies worldwide by supplying industries with our wide range of Power Transmission equipment. We have continuously strived to be a step ahead in technology by innovating and providing you with the most optimal solutions from our state-of-the-art facilities, keeping in mind the ever-changing requirements of the industry.

Elecon is now proud to present to you our next generation of industrial gearboxes featuring a variety of improvements such as higher torque ratings, better thermal capacities, universal mounting and wider range of accessories to enable adaptation to the most stringent requirements. Gearboxes are of split design to enable easy maintenance and are rated according to the latest DIN and AGMA standards.

Technical Specifications

| | |
|--------------------------|--|
| Options | Helical (parallel shaft), Bevel Helical (right angle shaft), Compact – Bevel Helical (right angle) |
| Mounting Options | Horizontal, Vertical, Over-driven, Under-driven, Torque Arm |
| Input Power | Upto 4,825 KW |
| Output Torque | Upto 132,000 Nm |
| Gear Ratios | 1.25/1 to 560/1 |
| Output Shaft | Upto 190 mm diameter (Solid Shaft), Upto 220 mm diameter (Hollow Shaft) |
| Optional Features | Motor Adaptor, Integral Backstop, Shrink Disc, Torque Arm, Forced Lubrication System, Cooling Coil, Integral Fan, Integral Output Flange, Double Extended Shafts |

MATERIAL HANDLING EQUIPMENTS

EOS Series – Universal Mounting Helical and Bevel Helical Gearboxes



radicon 
with you at every turn

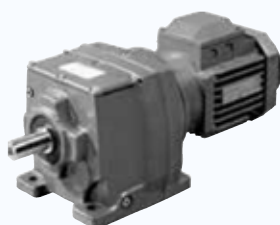
ELECON
GEARING THE FUTURE

MATERIAL HANDLING EQUIPMENTS

GEARED MOTOR



radicon 
with you at every turn



SERIES M IN LINE HELICAL GEARED MOTORS AND REDUCERS

Proven design geared motors with dry connection between motor and gearbox for easy removal of the motor.

Unit Sizes:

01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 13, 14 and 16

Input Power:

Up to 160 kW *

Output Torque:

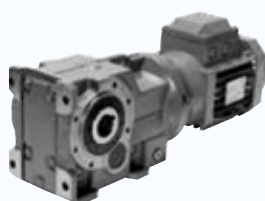
Up to 20,000 Nm

Gear Ratios:

3.6:1 to 58:1 in two stage, up to 16200:1 in combined form

Motor Sizes:

IEC Frames from 63 to 315



SERIES K RIGHT ANGLE HELICAL BEVEL HELICAL GEARED MOTORS AND REDUCERS

Key dimensions throughout the range are interchangeable with many manufacturers allowing easy installation into existing applications.

Unit Sizes:

03, 04, 05, 06, 07, 08, 09, 10, 12, 15 and 16

Input Power:

Up to 160 kW *

Output Torque:

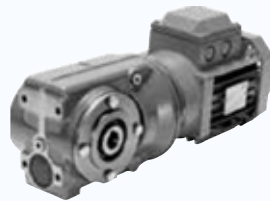
Up to 33,000 Nm

Gear Ratios:

8.0:1 to 160:1 in three stage, up to 35000:1 in combined form

Motor Sizes:

IEC Frames from 63 to 315



SERIES C RIGHT ANGLE HELICAL WORM GEARED MOTORS AND REDUCERS

Available with Drywell System or maximum protection against bit contamination on vertical shaft mixing and aerating applications.

Unit Sizes:

03, 04, 05, 06, 07, 08, 09, and 10

Input Power:

Up to 45 kW *

Output Torque:

Up to 10,000 Nm

Gear Ratios:

8.0:1 to 250:1 in two stage, up to 60000:1 in combined form

Motor Sizes:

IEC Frames from 63 to 225



SERIES F PARALLEL SHAFT MOUNT HELICAL GEARED MOTORS AND REDUCERS

Available with market leader KIBO tapered bushing system to allow trouble free removal of hollow shaft and gearboxes.

Unit Sizes:

02, 03, 04, 05, 06, 07, 08, 09, 10, 11 and 12

Input Power:

Up to 110 kW *

Output Torque:

Up to 16,500 Nm

Gear Ratios:

5.0:1 to 100:1 in 2 stage, up to 5600:1 in combined form

Hollow shaft:

25 mm to 100 mm

Motor Sizes:

IEC Frames from 63 to 225

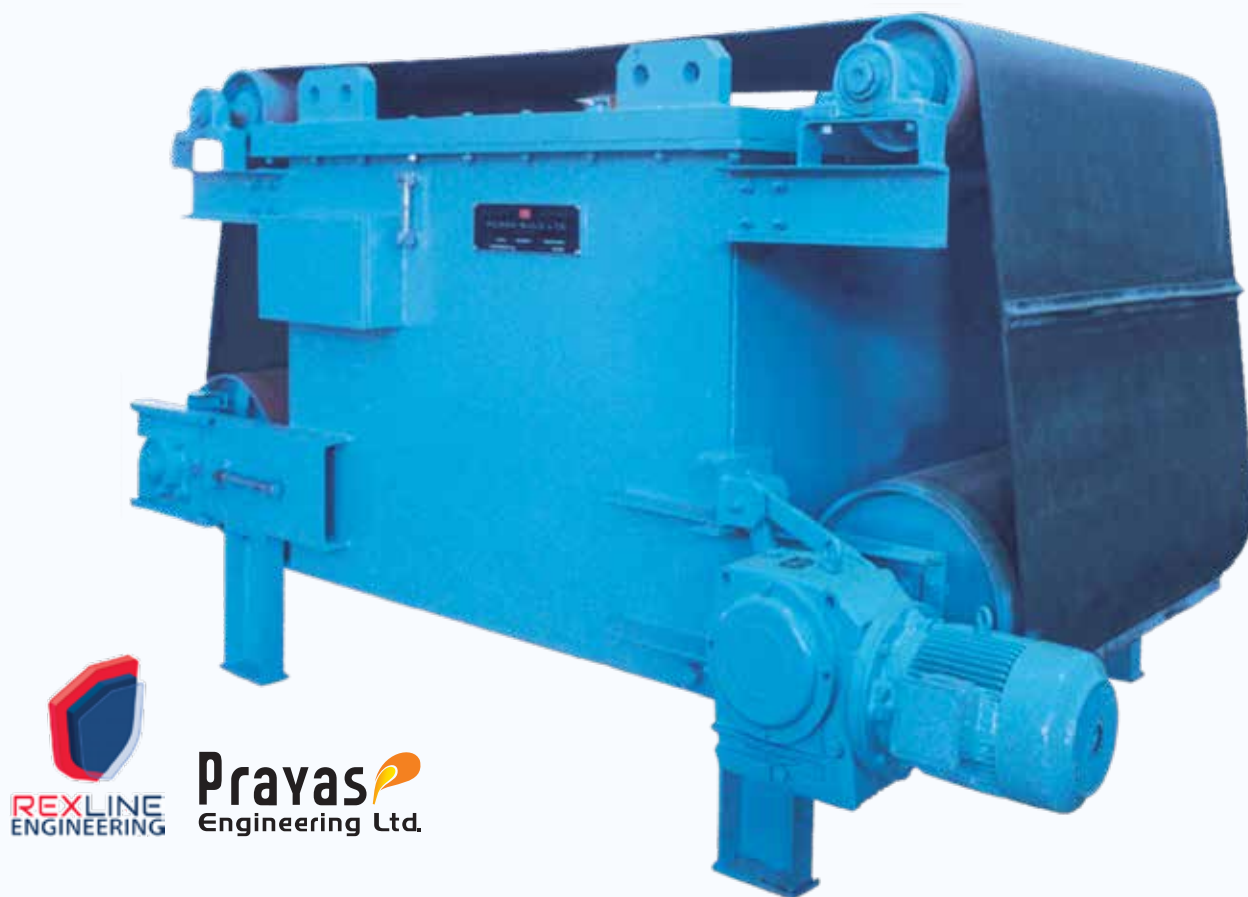
* Now available with compact motor option up to 7.5 kW, 4 pole execution.

THROUGH LIFE COSTS

Whether you use drive and linear motion systems in your plant production line, or are a machine builder wishing to offer your customer the most reliable machine possible, we recognise the importance of minimising through-life cost.

A combination of rugged reliability, providing maximum life span and user friendly design, enabling easy maintenance, ensures that the products we offer are easy to live with, giving you peace of mind and allowing you to focus on the important areas of your day to day business.

SELF-CLEANING MAGNETIC SEPARATOR



GENERAL

Bulk materials transported from mines to the processing/consuming plants are required to be treated magnetically to remove tramp iron pieces that are carried along with the material, to prevent damages to the costly equipments in the downstream process.

Power Build offers magnetic system to suit every application. Its range of magnets includes Overband Electro Magnetic Separators, Suspended Electro Magnets and Suspended Permanent Magnets. They find application in core sector industries like fertilizer, cement, coal, power generation, chemical, steel plants, etc.

PBL Magnets are designed and manufactured to their latest technological developments in the field of electromagnetism in the highly industrialized countries. Our design meets stringent specifications and application requirements to render long, satisfactory performance. They conform to international standards for both performance and safety.

PBL always endeavoured to upgrade their technology for efficiently servicing their customers and have entered into technical collaboration with world renowned Ets Raoul LENOIR of France for manufacturing magnets to their design.

SELF-CLEANING MAGNETIC SEPARATOR

APPLICATION

Magnetic Separators are primarily used for separation of ferrous material from material transported over a conveyor in different types of applications:

1. Protection of downstream processing equipments such as crushers Pulverizers Granulators etc
2. Purification of the product/ingredients for higher quality end product by removing iron pieces from the material in process
3. Reclamation of either the ferrous or non-ferrous material from open hearth and blast furnace slag, incinerator etc

In many applications there can be a combination of protection purification and reclamation operations.



Where the volume of tramp iron is large enough or the tramp iron pieces are encountered frequently and where the access to the magnet is so difficult that manual cleaning is impractical, self-cleaning type Electromagnets are the right choice. These self-cleaning units are provided with aluminium/stainless steel cleats for continuous auto removal of the tramp iron pieces.



Permanent Magnets find application where the working height is up to 300mm and the impurities are found accidentally in the bulk handled products.



Electromagnetic Separators are available in manual and self cleaning designs. The manual cleaning (suspended type Separators are ideal for applications where only small amount or occasional pieces of tramp iron are encountered. They must be periodically turned off in order to remove iron accumulation from the face of the magnet.

SALIENT FEATURES

With years of experience, PBL offers rectangular magnets with features that are of critical importance for maximum tramp iron removal. These features are :

1. Use of low carbon steel reduces the weight of the magnet and at the same time accommodates higher working flux density.
2. Optimized dimensions and shape of the core and side poles obtain wider, deeper field ensuring large force index at the centre to effect higher lifting capacity.
3. Use of electrolytic grade aluminium conductors limits heat losses and better efficiency.
4. Use of high quality insulation materials and improved methods impart longer life to the magnet coils.
5. Space wound coils design obtains optimum cross-sections of the conductor, efficient heat transfer and low hotspot temperatures.
6. Liberally designed/selected other mechanical components like pulleys, bearing blocks, drive, belt etc. ensure trouble-free operations.
7. Oil cooled magnets can be provided for better heat transfer.

SELF-CLEANING MAGNETIC SEPARATOR

DETERMINATION OF OPERATING HEIGHT

Operating height requirement should be specified by the user after giving due consideration to various factors. Any over specifying of operating height results into unnecessary high capital expenditure.

Burden height of the material can be worked out using the following formula :

$$\text{Burden Height (in mm)} = \frac{495 \times \text{TPH}}{\text{Belt width} \times \text{Belt speed} \times \text{density}}$$

Operating height should be 75 to 100 mm more than the burden height as calculated above or the maximum lump size, whichever is higher. It should be remembered that for higher lump sizes cross-belt arrangement becomes ineffective.

INSTALLATION

Magnetic Separators can be installed in cross belt or inline arrangements. Preferred installation of the suspended magnet is over the trajectory of the material discharged from the belt conveyor. If the conveyor is running at 2 M/sec, or more, this is the best way to utilize the full potential of the separator since separation is achieved while the burden depth is "opered-up" In flight. Further, the burden is moving directly towards the magnet face and the momentum of any included tramp iron assists in its separation. At slower conveyor speed if the trajectory of the discharged material becomes more clearly vertical, the magnet position must be shifted slightly back over the head pulley.


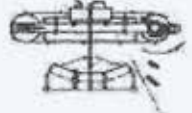
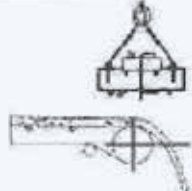
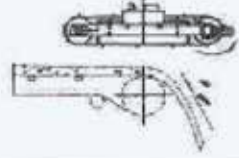
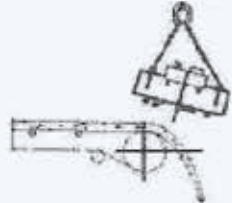
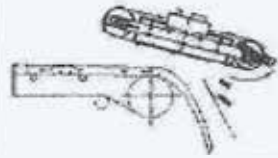
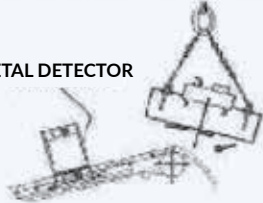

The cross belt arrangement of installation of the separator normally presents a more difficult separation problem and surely requires a strong magnet. Cross belt installation is used only when inline arrangement is not possible due to plant layout and as far as possible, to be avoided. For belt speed excessive or 2 M/sec. Cross belt installation is not at all recommended, as higher lump sizes will not allow effective separation and tramp iron pieces with tendency to be lifted vertically will puncture the separator belt.

Normally magnet is designed for continuous duty and there is considerable power loss due to resistance of the coil (1 R loss). The present trend is to over excite the magnet only when a tramp iron is encountered, while normally the magnet is in under-excited condition. This is achieved by installation of a Metal Detector prior to the magnetic Separator. As and when the tramp iron is detected, the metal detector sends a signal to the magnetic circuit to increase its magnetic strength temporarily for separation of the tramp iron piece. This arrangement leads to a lot of saving in energy and at the same time achieving the goal of efficient removal of tramp iron, in many cases by employing a smaller size magnet.

PBL offers magnetic equipments of all types in air cooled and oil cooled designs and can offer ideal and most economic solution to the problems of effective tramp iron separation.

All components located within the zone of active magnetic field should be of non-magnetic material.

SELF-CLEANING MAGNETIC SEPARATOR

| Position | Max. Conveyor Speed | Suspended Electromagnet & Permanent Magnet | Electromagnetic Separator |
|---|---------------------|--|---|
| Cross Belt Arrangement | 2 m/sec |  |  |
| Inline Arrangement (Paraller) | 2.5 m/sec |  |  |
| Inline Arrangement (Inclined) | Above 2.5 m/sec |  |  |
| Magnetic Equipment Working in Conjunction with Metal Detector | Upto 3.5 m/sec | METAL DETECTOR  | METAL DETECTOR  |

SELECTION

Most important features in the selection of the proper size of magnetic separators are burden depth, belt width, suspended position and tramp iron size.

Since other factors may affect the choice of the proper magnet, intelligent engineering practice dictates that each application be individually reviewed by a PBL application engineer before the selection is made. The following information is required to make a proper recommendation :

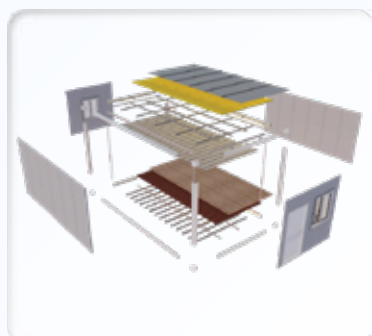
- Capacity of the conveyor in tonnes per hour.
- Belt width.
- Belt speed.
- Burden depth.
- Maximum lump size.
- Size and shape (minimum and maximum) of tramp iron pieces to be separated.
- Troughing angle.
- Bulk density of the material.
- Arrangement of the magnet, i.e. cross belt or inline.
- Conveyor inclination.
- Ambient temperature.
- Available power.

CONTAINER HOUSE/OFFICE

Flat office/ Company/ Mining Camp Solutions

SUMMARY

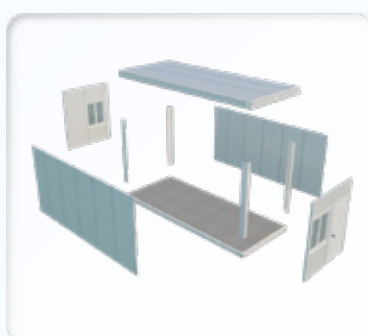
DETACHABLE CONTAINER HOUSE



SIZE:

5950*3000*2800mm

FLAT PACK CONTAINER HOUSE



SIZE:

5900*2438*2896mm

FOLDING CONTAINER HOUSE



SIZE:

5800*2480*2500mm

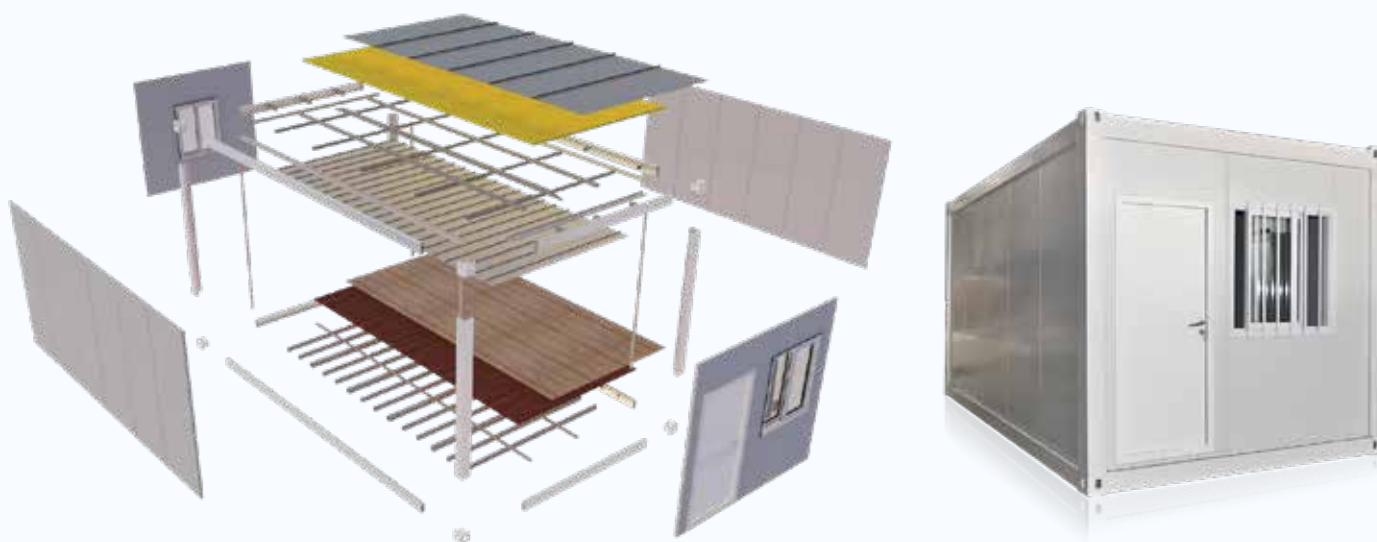
PARAMETER COMPARISON

| ITEM | DETACHABLE CONTAINER HOUSE | FLAT PACK CONTAINER HOUSE | FOLDING CONTAINER HOUSE |
|---|-------------------------------|------------------------------|----------------------------|
| EXTERNAL SIZE L*W*H | 5950*3000*2800mm | 5900*2438*2896mm | 5800*2480*2500mm |
| SHIPPING CAPACITY ONE 40'HQ SHIPPING CONTAINER | ★★★★★ 11 Units | ★★★★★ 8 Units | ★★★★★ 12 Units |
| INSTALLATION SPEED 24 UNITS / 3PERSON | ★★★★★ 8 days | ★★★★★ 6 days | ★★★★★ 1 day |
| STABILITY | ★★★★★ | ★★★★★ | ★★★★★ |
| SCALABILITY | ★★★★★ | ★★★★★ | ★★★★★ |
| CUSTOMIZE | ★★★★★ | ★★★★★ | ★★★★★ |

CONTAINER HOUSE/OFFICE

Flat office/ Company/ Mining Camp Solutions

DETACHABLE CONTAINER HOUSE



DIFFERENT PARTS OF STEEL FRAME

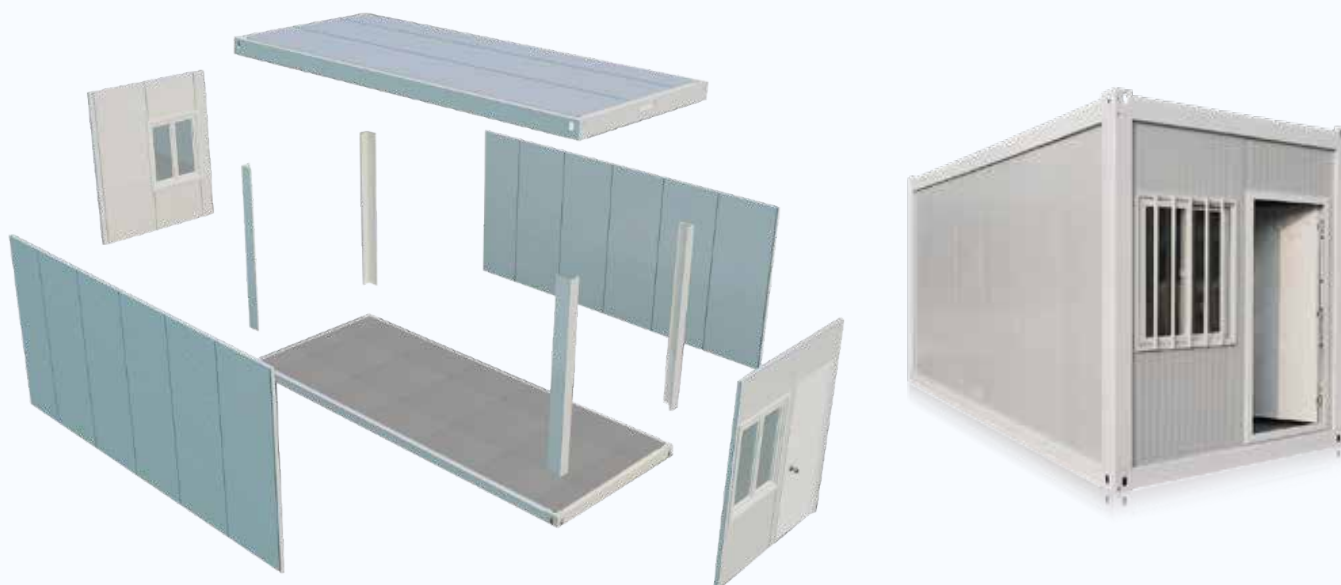
DETACHABLE CONTAINER HOUSE

| | Roof Purlins | Floor Purlins | Corner Joint | Wall Panel | Window |
|----------|---|--|--|---|--|
| BASIC |  <p>THK:1.2mm 40x60mm / 2 pics 40x80mm / 3 pics</p> |  <p>THK:1.2mm 80x80mm / 4 pics 40x80mm / 5 pics</p> |  <p>160x160mm</p> |  <p>50mm Rock Wool +0.3mm PPGI</p> |  <p>Single Stalinite Glass Plastic Steel Window</p> |
| STANDARD |  <p>THK:1.2mm 50x50mm / 2 pics 40x60mm / 2pics 40x80mm / 1 pic</p> |  <p>THK:1.5mm 80x80mm / 4 pics 40x80mm / 5 pics</p> |  <p>160x160mm</p> |  <p>50mm Rock Wool +0.3mm PPGI</p> |  <p>Double Stalinite Glass Plastic Steel Window</p> |
| PREMIUM |  <p>THK:1.2mm 40x80mm / 6pics 40x60mm / 2pics</p> |  <p>THK:1.5mm 80x80mm / 4 pics 40x80mm / 10 pics 30x50mm / 30pics</p> |  <p>160x160mm</p> |  <p>50mm Rock Wool +0.4mm PPGI</p> |  <p>Double Stalinite Glass Bridge-cutoff Aluminum Alloy</p> |

CONTAINER HOUSE/OFFICE





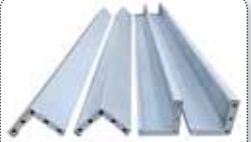

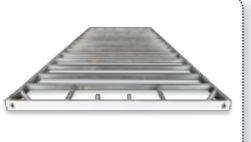




Flat office/ Company/ Mining Camp Solutions

FLAT PACK CONTAINER HOUSE



DIFFERENT PARTS OF STEEL FRAME

FLAT PACK CONTAINER HOUSE

| | Corner Joint | Column | Roof Purlins | Floor Purlins | Floor Beam |
|----------|--|---|---|--|---|
| BASIC |  160x160mm |  160x160x2526mm |  40x80mm C-Type Tube |  50x100mm Square Tube x 9 |  Basic Beam |
| STANDARD |  160x160mm |  160x160x2526mm |  40x80mm C-Type Tube |  50x100mm Square Tube x 14 |  Basic Beam |
| PREMIUM |  150x210mm |  150x210x2526mm |  40x80mm Square Tube |  50x100mm Square Tube x 14 |  Upgrade Beam |

CONTAINER HOUSE/OFFICE













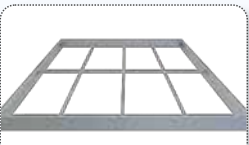


Flat office/ Company/ Mining Camp Solutions

FOLDING CONTAINER HOUSE



DIFFERENT PARTS OF STEEL FRAME

FOLDING CONTAINER HOUSE

| | Floor Frame | Floor Purlins | Roof Frame | Folding Beam | Hinge |
|----------|---|---|--|---|--|
| BASIC |  SIZE:140x60mm THK:1.2mm Square Tube |  SIZE:40x40mm THK:1.3mm Square Tube x 9 |  SIZE:30x50mm THK:1.3mm Square Tube |  37x60mm P-Shape Steel |  THK:1.7mm Galvanized Steel |
| STANDARD |  SIZE:160x80mm THK:1.5mm Square Tube |  SIZE:40x40mm THK:1.5mm Square Tube x 9 |  SIZE:40x40mm THK:1.5mm Square Tube |  40x80mm S-Shape Steel |  THK:1.7mm Galvanized Steel |
| PREMIUM |  SIZE:170x50mm THK:2.5mm Shape Steel |  SIZE:50x100mm THK:1.5mm Square Tube x 9 |  SIZE:50x100mm THK:1.5mm Square Tube |  50x100mm S-Shape Steel |  THK:5mm Galvanized Steel |

CONTAINER HOUSE/OFFICE

Flat office/ Company/ Mining Camp Solutions

SHIPPING CAPACITY

DETACHABLE CONTAINER HOUSE

5950*3000*2800mm



ONE 40 HQ SHIPPING CONTAINER

Basic & Standard & Premium
11 Units



FLAT PACK CONTAINER HOUSE

5900*2438*2896mm



ONE 40 HQ SHIPPING CONTAINER

Basic & Standard & Premium
8 Units



FOLDING CONTAINER HOUSE

5800*2480*2500mm



ONE 40 HQ SHIPPING CONTAINER

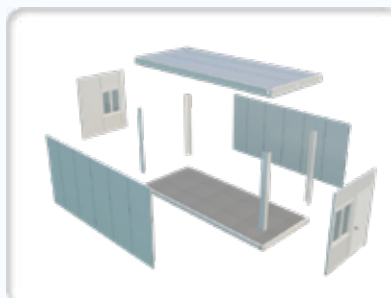
Standard & Premium: **10 Units**
Basic: **12 Units**



INSTALLATION SPEED



**DETACHABLE
CONTAINER HOUSE**



**FLAT PACK
CONTAINER HOUSE**



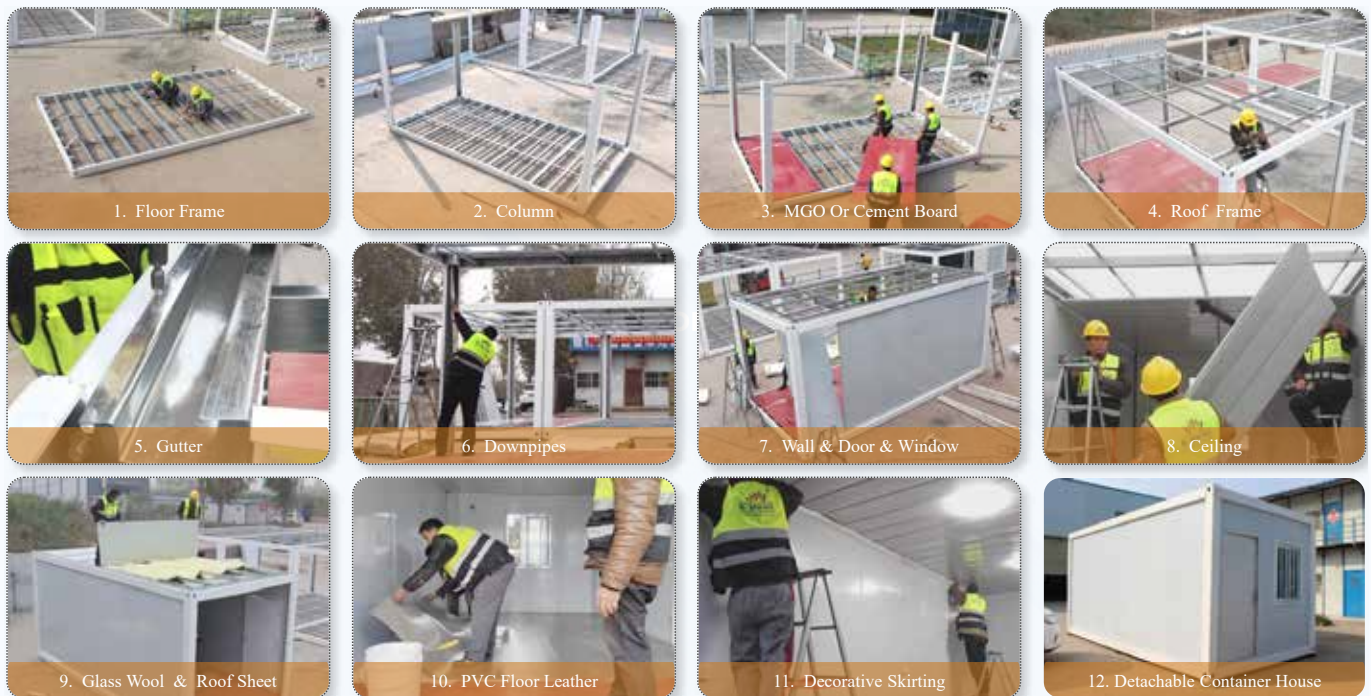
**FOLDING
CONTAINER HOUSE**

CONTAINER HOUSE/OFFICE

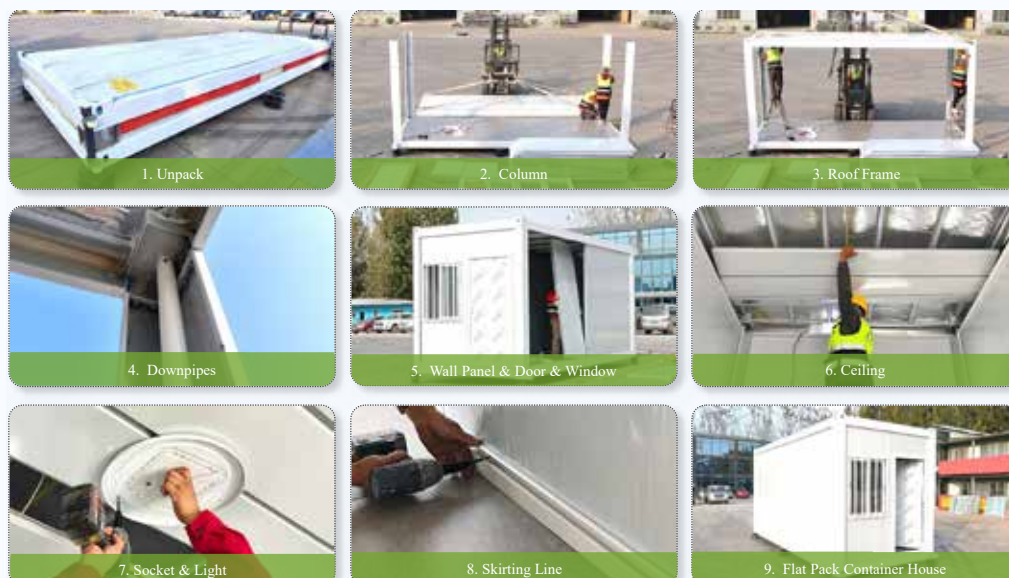
Flat office/ Company/ Mining Camp Solutions

INSTALLATION PROCESS

DETACHABLE CONTAINER HOUSE



FLAT PACK CONTAINER HOUSE

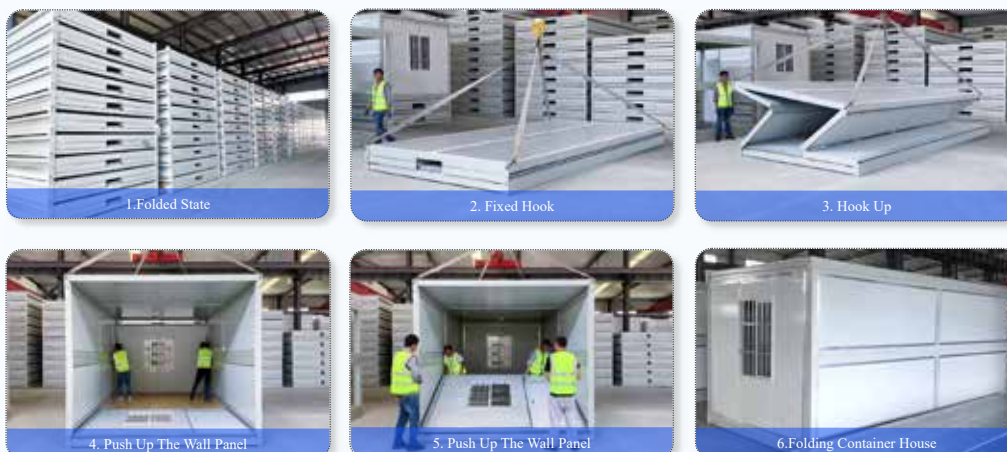


CONTAINER HOUSE/OFFICE

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INSTALLATION PROCESS

FOLDING CONTAINER HOUSE



IN THEORY INSTALLATION SPEED

| | DETACHABLE CONTAINER HOUSE | FLAT PACK CONTAINER HOUSE | FOLDING CONTAINER HOUSE |
|-----------|--------------------------------|--------------------------------|-------------------------------|
| 24 UNITS | 3 person completed in 8 days | 3 person completed in 6 days | 3 person completed in 1 day |
| 48 UNITS | 5 person completed in 10 days | 5 person completed in 7 days | 5 person completed in 1 day |
| 96 UNITS | 10 person completed in 10 days | 10 person completed in 7 days | 10 person completed in 1 day |
| 120 UNITS | 15 person completed in 8 days | 15 person completed in 6 days | 15 person completed in 1 day |
| 240 UNITS | 15 person completed in 16 days | 15 person completed in 12 days | 15 person completed in 2 days |

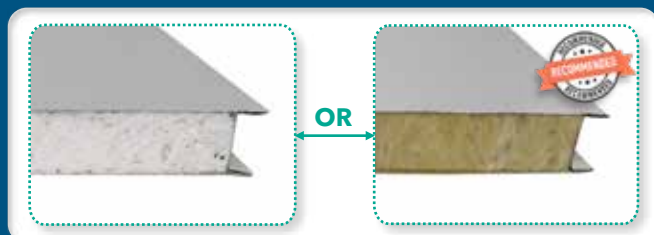
CONTAINER HOUSE/OFFICE

Flat office/ Company/ Mining Camp Solutions

SANDWICH PANEL

STANDARD OPTIONS

ADDITIONAL UPGRADE OPTIONS



EPS PANEL

ROCK WOOL PANEL



PU SEALED ROCK WOOL PANEL



PU PANEL

EPS sandwich and rock wool sandwich options can meet most using environments.
If you have special requirements, PU sealed rock wool panel or PU panel can be recommended for your upgrade options.

WALL PANEL COMPARISON



EPS PANEL



ROCK WOOL PANEL



PU SEALED ROCK WOOL PANEL



PU PANEL

| ITEM | EPS PANEL | ROCK WOOL PANEL | PU SEALED ROCK WOOL PANEL | PU PANEL |
|------------------|-----------|-----------------|---------------------------|----------|
| WATERPROOF | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |
| FIREPROOF | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |
| HEAT INSULATION | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |
| SOUND INSULATION | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |
| COST-EFFECTIVE | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |

Loader / Excavator / Dumptruck / Truck online Weighing & Fuel monitoring system

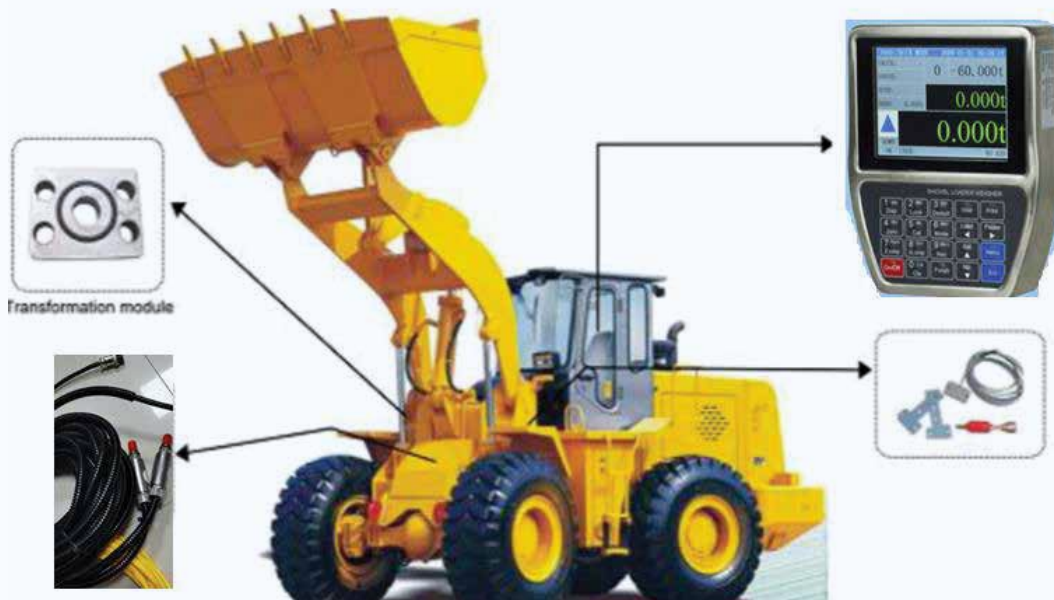
Onboard Loader Weighing

Key Features:

1. Easy to install or re-install.
2. Operates on 24V Dc supply from Battery. Max Power 10W.
3. Big TFT color LCD display (640*480 dot).
4. Cloud Monitoring Option
5. Easy Calibration & No maintenance



2 high precision pressure transducers, positioning sensor ensure repeated long term accuracy SS Body Controller for non Corrosive area application



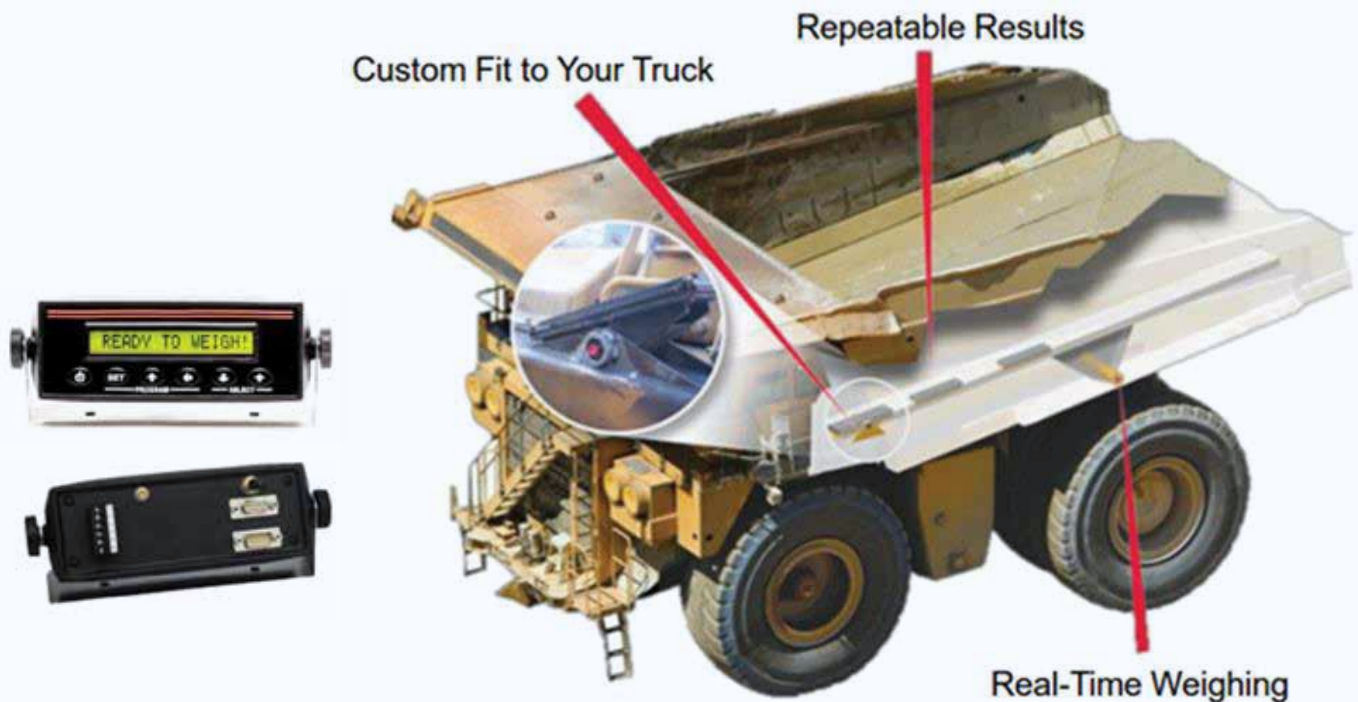
Loader / Excavator / Dumptruck / Truck online Weighing & Fuel monitoring system



Mass Excavator scale consists of 2 nos of high precision pressure Transducers, positioning sensor and the controller with built in printer Target of the weight to be Loaded to Dumper Can be set. The Controller Will Show each bucket weight, Total weight Loaded and how much +/- etc in display. If the Cabin is Air conditioned & Dust free the built-in printer will give printout once Loading of Each Vehicle is completed.

Loader / Excavator / Dumptruck / Truck online Weighing & Fuel monitoring system

On Board Truck scale in Collaboration with an American Company



Weigh in Real Time - No Waiting

You don't have to customize your trucks. We custom fit load-man to your trucks. Achieve repeatable results with system calibration only once per year.

Save Time/Save Money

Save time, and money: Monitor cycle times between loads and carry-back.

Extreme Durability

Load-man operates reliably and requires minimal service despite severe weather and harsh conditions.

Consistent Payloads

Improve tonnage per day per vehicle by maximizing payload without risking overloading.

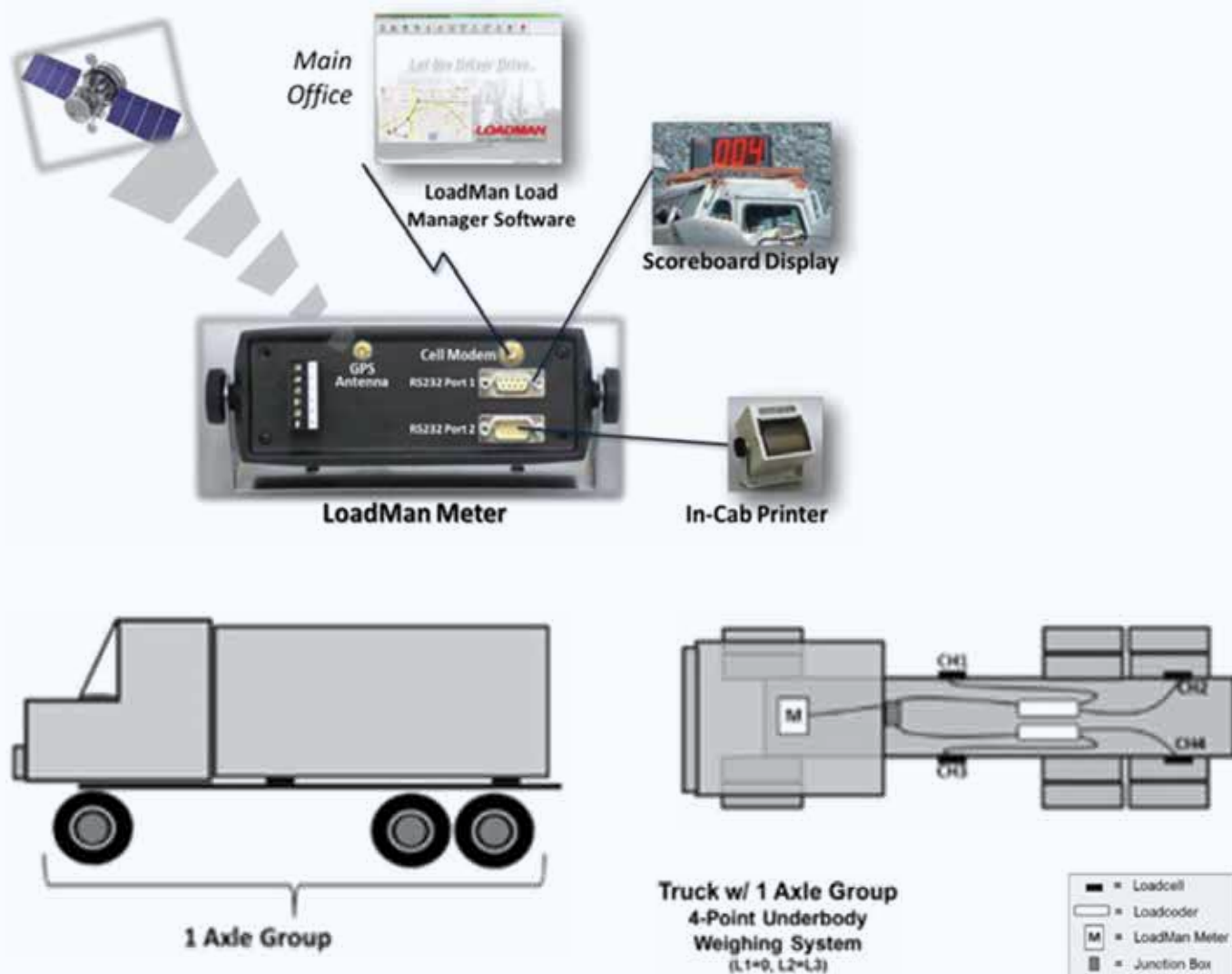
Less Wear and Tear

Less wear on truck components: extend the life of your tires.

Loader / Excavator / Dumptruck / Truck online Weighing & Fuel monitoring system

Onboard Truck Scale

| Load Man Display | Description |
|--------------------|--|
| UNDERBODY 4POINT | 4-Point Underbody Weighing System Truck with 1-Axle Group (Factory Default) |
| UNDERBODY 6POINT | 4-Point Underbody Weighing System Truck with 1-Axle Group (Factory Default) |
| TRK TIPPING BODY | Tipping Truck with 2 Axle Groups |
| TRK & TLR TIP BODY | Tipping Truck & Trailer with 3 Axle Groups |
| TRUCK 2 AXLES | Freight Truck with 2 Axle Groups |
| TRK & TLR 4 AXLES | Freight Truck & Trailer with 4 Axle Groups |



RADAR LEVEL SENSORS

MRM / MTS SERIES Complete range of Radar level sensor FOR SOLIDS, LIQUIDS AND POWDERY MATERIAL

Principle of Operation:

Radar Level Antenna emits narrow microwave pulses that transmitted down by the antenna. The microwave comes into contact with the measured medium surface then reflected back and receiving by the antenna system. The signal is transmitted to electronic circuit and partly convert to level signals.

Application: Solids, Liquids, Powdery material including corrosive material like Acids

Measurement Span: 15m/20m/35m (powder);
20m/30m/45m (particle);
35m/45m/55m(lump materials)
0-1m...70m(liquids)

Process Connection: Multidirectional flange or Screw type

Medium Temperature Span: -40~250 °C

Process Pressure: -1Bar~1 Bar

Accuracy: ±15mm

Proof Grade: IP67

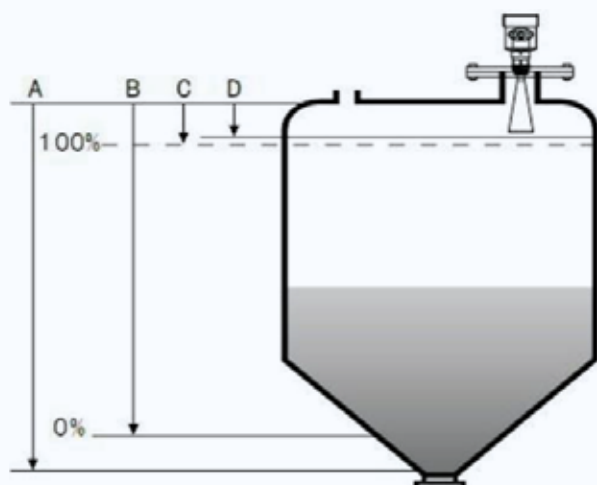
Supply: DC24V or 85-265VAC

The Frequency Span: up to 26G Hz

Explosion proof grade: Exib II CT6 Gb

Signal Output: 4...20mA/HART (2 wires/4 wires)

RS485/Modbus



A Measuring range setting

B Min. adjustment

C Max. adjustment

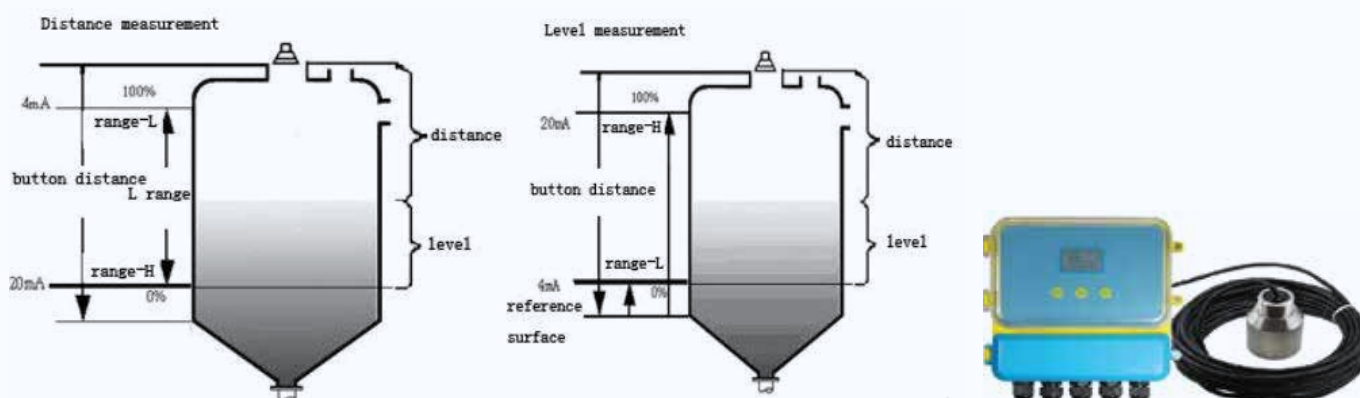
D Near blanking



Parallel Display if PLC
is not used at site

ULTRASONIC LEVEL SENSORS

UEM 3000 Series Integrated & Separate Indication Ultrasonic Level Sensors



| | | |
|-------------------------|--|--|
| Measurement range | 5m, 10m, 15m, 20m, 30m, 40m, 50m, 60m | 5m, 10m, 15m, 20m, 30m, 40m, 50m, 60m, 70m |
| Measurement accuracy | 0.25% - 0.5% | 0.25% - 0.5% |
| Resolution | 3mm or 0.1% (take great) | 3mm or 0.1% (take great) |
| Display | LCD | LCD |
| Analog output | 4 wires 4 - 20mA / 750Ω load 2 wires 4 - 20mA / 250Ω load | 4 - 20mA / 750Ω load |
| Relay output | 2 groups AC 250V/8A or DC 30V/5A state programmable (optional) | Single channel for 2 groups, double channel for 4 groups AC 250V/8A or DC 30V/5A state programmable (optional) |
| Power supply | Standard configuration 24VDC optional 220V AC+15% 50Hz | Standard configuration 220V AC+15% 50Hz, optional 24VDC 120mA, custom 12VDC or power supply |
| Environment temperature | Display instrument -20 ~ +60 °C, transducer -20 ~ +80 °C | Display instrument -20 ~ +60 °C, transducer -20 ~ +80 °C |
| Communication | Optional 485, 232 communication (Manufacturer agreement) | Optional 485, 232 communication (Manufacturer agreement) |
| Protection grade | Display instrument IP65, transducer IP68 | Display instrument IP65, transducer IP68 |

FUEL LEVEL SENSORS

ML-800 Fuel level sensor with GPS Tracker



| NO. | Item | Performance parameters |
|-----|--------------------------|---|
| 1 | Collection principle | Capacitance |
| 2 | Size | 100mm to 1500mm(minimum can be detected 100mm,maximum can be detected 1500mm) There have 3mm blind area of bottom fuel sensor can't be detected. |
| 3 | Electrical parameters | DC: 4-70V, better DC: 4-36V (Over voltage protection, reverse Voltage protection) |
| 4 | Power Consumption | 0.200W/5V、0.286W/12V、0.571W/24V |
| 5 | Signal output | RS232,RS485, 0-5V |
| 6 | Communication baud | 2400,4800,9600,57600,115200 |
| 7 | Resistance output | 10~500Ω |
| 8 | Detection of liquid type | Diesel, biodiesel, kerosene, etc. |
| 9 | Resolution | Less than 1mm |
| 10 | Accuracy | ±0.5% |
| 11 | Use of the environment | Work temperature:-40℃~+75℃ Save temperature:-40℃~+85℃ |
| 12 | Humidity | 0~99% |
| 13 | Detector material | Aluminum alloy |
| 14 | Protection class | IP67 |



FUEL LEVEL SENSORS

ML-800 Fuel level sensor with GPS Tracker

- ◇LTE-FDD(B1/B3/B5²)/B7/B8/B20²)/B28,LTE-TDD(B38/B40/B41,WCDMA(B1/B52)/B8,GSM(900/1800HMZ).
- ◇High sensitivity -165 dBm (Tracking), Fast TTFF
- ◇Multiple Digital Input, Analage Input and Output
- ◇Remote cut engine function
- ◇Embedded 4M Flash
- ◇DC Tolerance voltage, from 9V to 36V
- ◇SOS Button Optional
- ◇Support two fuel level sensor with 0-5V DC output
- ◇Internal Battery, 3.7V, 500mAh
- ◇Firmware update: Update over the air

Aluminium alloy Sensor that can be cut to suit tank Height.
Very easy to install calibrate & Monitor



View on PC



View on Mobile

ELECTRIC WINCHES



2 TON
ELECTRIC WINCHES

ELECTRIC WINCHES

2 TON ELECTRIC WINCHES TECHNICAL DATA

| MODEL | 2 TON ELECTRIC WINCH MACHINE |
|---------------------|---|
| BASE FRAME | Fabricated with rolled steel section/plates properly ribbed floored with plate for working area with lifting lugs provided. Weights =850 KG, Frame Size = 1480 mm x 1680 mm IS MB Size = 125mm x 75mm. |
| ROPE DRUM | Drum fabricated with seamless pipe duly machined with flange at both and with roller bearing on both flange. DRUM CAPACITY:- 200/400 meters, ROPE DIA :- 12/14 mm |
| REDUCER | 1st Stage Worm Reduction gears box of NU-Series PEC make. 2nd Stage Reduction with spur gear and pinion (Size of Gear Box) = NU 5. Ratio = 1:40 |
| MOTOR | TEFC SQ. Cage 3H.P/5H.P Crane Duty Motor 400/415V, 50Hz, 3PH. Class of insulation F, IP- 55 Protection, S4Duty, CDF 40%. No of Start Stop150 per hour |
| DRUM & PINION SHAFT | Make of EN8 forged steel material. |
| ROPE SPEED | 4 - 6 Meters / minutes OR 6-8 meter/min at last layer |
| BRAKE | Electro hydraulically operated Double shoe thruster brake. (Dia of brake:-200mm of Reputed Make) |
| COUPLING | Star coupled on motor shaft and input shaft gear box flexible pin bush coupling on out shaft of gear box and input shaft of pinion. |
| CONTROL | The winch is operated by master control with four Steps forward and reverses in slip ring motor. In squirrel cage motor is operated by reverse forward pendent push button station. |
| CONTROL PANEL | Control panel suitable for motor provided with contactor, overload relay, amp/volt meter, Push Button for on and off, lamp for incoming supply, HRC fused & Step Down Transformer and control panel is weather proof. |
| PAINTING | Two coats of red oxide and enamel Paint. |
| SAFETY FEATURES | Hand operated brake for emergency stop provided. Overload tripping system for motor. HRC fuse, Miniature Circuit Breaker & Step Down Transformer for safety of the operating personal and control panel is weather proof. |

Note: Resistance box and master controller is applicable only in slip ring motor.

ELECTRIC WINCHES



**3 TON
ELECTRIC WINCHES**

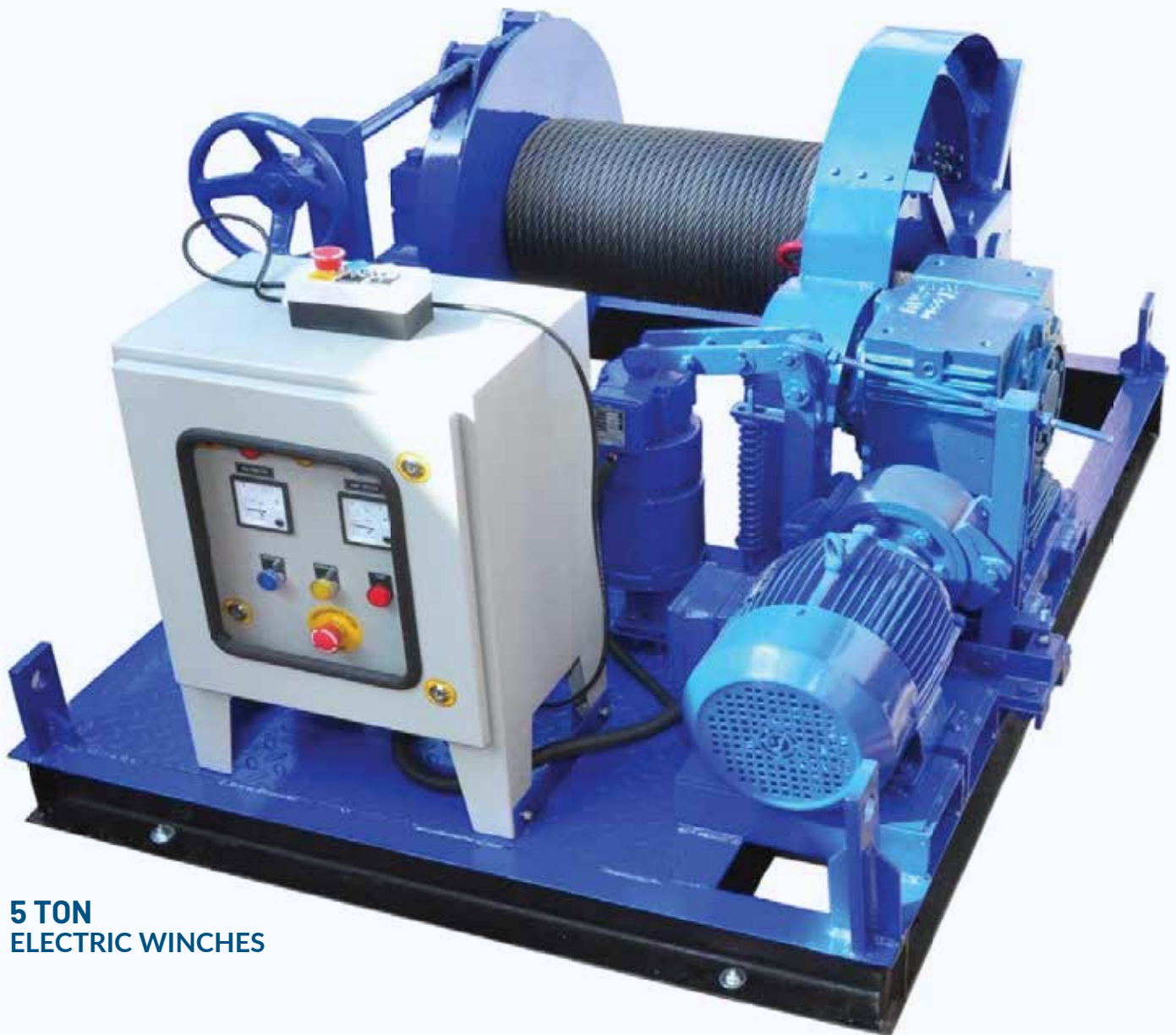
ELECTRIC WINCHES

3 TON ELECTRIC WINCHES TECHNICAL DATA

| MODEL | 3 TON ELECTRIC WINCH MACHINE |
|---------------------|---|
| BASE FRAME | Fabricated with rolled steel section/plates properly ribbed floored with plate for working area with lifting lugs provided. Weight=1000 KG Frame Size = 1800mm x 1524mm IS MB Size = 150mm x 75mm. |
| ROPE DRUM | Drum fabricated with seamless pipe duly machined with flange at both and with roller bearing on both flange. DRUM CAPACITY:- 300/450 meters, WIRE ROPE :-14mm/ 16mm |
| REDUCER | 1st Stage Worm Reduction gears box of NU-Series PEC make 2nd Stage Reduction with spur gear and pinion (Size of Gear Box) = NU 6. Ratio = 1:40 |
| MOTOR | TEFC SQ. Cage 5H.P/7.5H.P Crane Duty Motor 400/415V, 50Hz, 3PH. Class of insulation F, IP- 55 Protection, S4Duty, CDF 40%. No of Start Stop150 per hour |
| DRUM & PINION SHAFT | Make of EN8 forged steel material. |
| ROPE SPEED | 4 - 6 Meters / minutes OR 6-8 meters/min. even more |
| BRAKE | Electro hydraulically Double shoe thruster brake. (Dia of brake:-200mm of Reputed Make) |
| COUPLING | Star coupled on motor shaft and input shaft gear box flexible pin bush coupling on out shaft of gear box and input shaft of pinion. |
| CONTROL | The winch is operated by master control with four Steps forward and reverses in slip ring motor. In squirrel cage motor is operated by reverse forward pendent push button station. |
| CONTROL PANEL | Control panel suitable for motor provided with contactor, overload relay, amp/volt meter, Push Button for on and off, lamp for incoming supply, HRC fused & Step Down Transformer and control panel is weather proof. |
| PAINTING | Two coats of red oxide and enamel Paint. |
| SAFETY FEATURES | Hand operated brake for emergency stop provided. Overload tripping system for motor. HRC fuse, Miniature Circuit Breaker & Step Down Transformer for safety of the operating personal and control panel is weather proof. |

Note: Resistance box and master controller is applicable only in slip ring motor.

ELECTRIC WINCHES



**5 TON
ELECTRIC WINCHES**

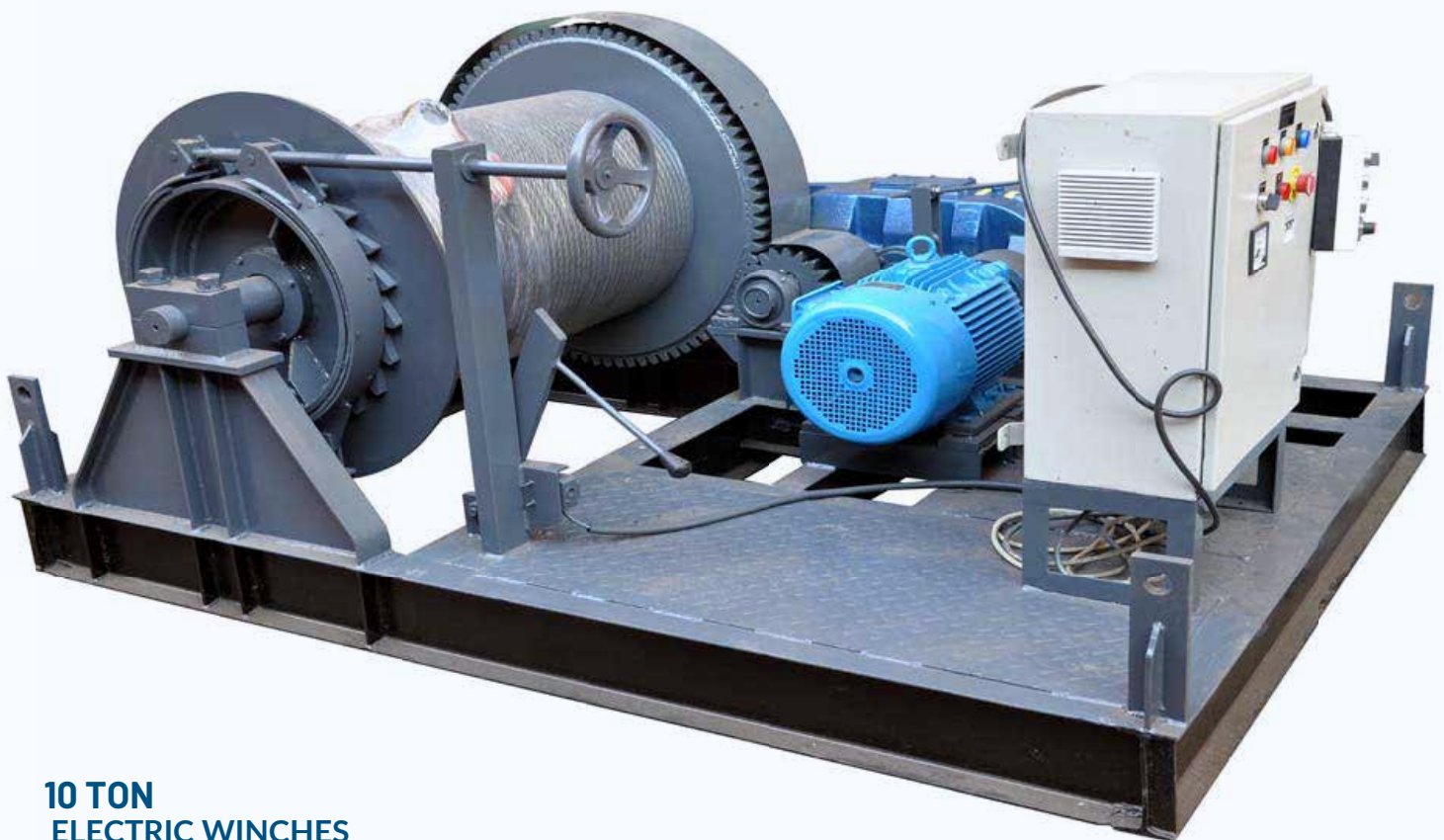
ELECTRIC WINCHES

5 TON ELECTRIC WINCHES TECHNICAL DATA

| MODEL | 5 TON ELECTRIC WINCH MACHINE |
|---------------------|---|
| BASE FRAME | Fabricated with rolled steel section/plates properly ribbed floored with plate for working area with lifting lugs provided. Weights =1550 KG, Frame Size = 2100 mm x 1800 mm IS MB Size = 200mm x 75mm. |
| ROPE DRUM | Drum fabricated with seamless pipe duly machined with flange at both and with roller bearing on both flange. DRUM CAPACITY:- 300/500 meters, ROPE DIA :- 16/19 mm |
| REDUCER | 1st Stage Worm Reduction gears box of NU-Series PEC make. 2nd Stage Reduction with spur gear and pinion (Size of Gear Box) = NU 7/NU8,. Ratio = 1:40 |
| MOTOR | TEFC SQ. Cage 10H.P/15H.P Crane Duty Motor 400/415V, 50Hz, 3PH. Class of insulation F, IP- 55 Protection, S4Duty, CDF 40%. No of Start Stop 150 per hour-960 RPM ----- CROMPTON OR BBL MAKE |
| DRUM & PINION SHAFT | Make of EN8 forged steel material. |
| ROPE SPEED | 4 - 6 Meters / minutes OR 6-8 meter/min at last layer |
| BRAKE | Electro hydraulically operated Double shoe thruster brake. (Dia of brake:-200mm of Reputed Make) |
| COUPLING | Star coupled on motor shaft and input shaft gear box flexible pin bush coupling on out shaft of gear box and input shaft of pinion. |
| CONTROL | The winch is operated by master control with four Steps forward and reverses in slip ring motor. In squirrel cage motor is operated by reverse forward pendant push button station. |
| CONTROL PANEL | Control panel suitable for motor provided with contactor, overload relay, amp/volt meter, Push Button for on and off, lamp for incoming supply, HRC fused & Step Down Transformer and control panel is weather proof. |
| PAINTING | Two coats of red oxide and enamel Paint. |
| SAFETY FEATURES | Hand operated brake for emergency stop provided. Overload tripping system for motor. HRC fuse, Miniature Circuit Breaker & Step Down Transformer for safety of the operating personal and control panel is weather proof. |

Note: Resistance box and master controller is applicable only in slip ring motor.

ELECTRIC WINCHES



10 TON
ELECTRIC WINCHES

ELECTRIC WINCHES

10 TON ELECTRIC WINCHES TECHNICAL DATA

| MODEL | 10 TON ELECTRIC WINCH MACHINE |
|---------------------|---|
| BASE FRAME | Fabricated with rolled steel section/plates properly ribbed floored with plate for working area with lifting lugs provided. Weight=2200 KG, Frame Size = 2050 mm x 2536 mm IS MB Size = 250mm x 125mm. |
| ROPE DRUM | Drum fabricated with seamless pipe duly machined with flange at both and with roller bearing on both flange. DRUM CAPACITY:- 300/500 meters, WIRE ROPE :- 22mm/24mm |
| REDUCER | 1st Stage HELICAL gear box. 2nd Stage Reduction with spur gear and pinion (Size of Gear Box HC 550). Ratio = 1:50 |
| MOTOR | TEFC SQ. Cage 20 H.P / 25 H.P Crane Duty Motor 400/415V, 50Hz, 3PH. Class of insulation F, IP- 55 Protection, S4Duty, CDF 40%. No of Start Stop 150 per hour |
| DRUM & PINION SHAFT | Make of EN8 forged steel material. |
| ROPE SPEED | 4 - 6 Meters / minutes at last layer OR even more. |
| BRAKE | Electro hydraulically operated Double shoe thruster brake. 1) Dia of brake:-300mm. OR 2)DIA OF BRAKE:-200 |
| COUPLING | Star coupled on motor shaft and input shaft gear box flexible pin bush coupling on out shaft of gear box and input shaft of pinion. |
| CONTROL | The winch is operated by master control with four Steps forward and reverses in slip ring motor. In sq. cage motor is operated by reverse forward pendent push button station. |
| CONTROL PANEL | Control panel suitable for motor provided with contactor, overload relay, amp/volt meter, Push Button for on and off, lamp for incoming supply, HRC fused & Step Down Transformer and control panel is weather proof. |
| PAINTING | Two coats of red oxide and enamel Paint. |
| SAFETY FEATURES | Hand operated brake for emergency stop provided. Overload tripping system for motor. HRC fuse, Miniature Circuit Breaker & Step Down Transformer for safety of the operating personal and control panel is weather proof. |

Note: Resistance box and master controller is applicable only in slip ring motor.

ELECTRIC WINCHES



**15 TON
ELECTRIC WINCHES**

ELECTRIC WINCHES

15 TON ELECTRIC WINCHES TECHNICAL DATA

| MODEL | 15 TON ELECTRIC WINCH MACHINE |
|---------------------|---|
| BASE FRAME | Fabricated with rolled steel section/plates properly ribbed floored with plate for working area with lifting lugs provided. Weight=2200 KG, Frame Size = 2050 mm x 2536 mm IS MB Size = 250mm x 125mm. |
| ROPE DRUM | Drum fabricated with seamless pipe duly machined with flange at both and with roller bearing on both flange. DRUM CAPACITY:- 300/500 meters, WIRE ROPE :- 25mm/28mm OR EVEN MORE |
| REDUCER | 1st Stage HELICAL gear box. 2nd Stage Reduction with spur gear and pinion (Size of Gear Box HC 550). Ratio = 1:50 |
| MOTOR | TEFC SQ. Cage 40 H.P / 50 H.P Crane Duty Motor 400/415V, 50Hz, 3PH. Class of insulation F, IP- 55 Protection, S4Duty, CDF 40%. No of Start Stop 150 per hour CGL/ABB MAKE |
| DRUM & PINION SHAFT | Make of EN8 forged steel material. |
| ROPE SPEED | 4 - 6 Meters / minutes at last layer OR even more. |
| BRAKE | Electro hydraulically operated Double shoe thruster brake. 1) Dia of brake:-300mm. OR 2)DIA OF BRAKE:-200 |
| COUPLING | Star coupled on motor shaft and input shaft gear box flexible pin bush coupling on out shaft of gear box and input shaft of pinion. |
| CONTROL | The winch is operated by master control with four Steps forward and reverses in slip ring motor. In sq. cage motor is operated by reverse forward pendent push button station. |
| CONTROL PANEL | Control panel suitable for motor provided with contactor, overload relay, amp/volt meter, Push Button for on and off, lamp for incoming supply, HRC fused & Step Down Transformer and control panel is weather proof. |
| PAINTING | Two coats of red oxide and enamel Paint. |
| SAFETY FEATURES | Hand operated brake for emergency stop provided. Overload tripping system for motor. HRC fuse, Miniature Circuit Breaker & Step Down Transformer for safety of the operating personal and control panel is weather proof. |

Note: Resistance box and master controller is applicable only in slip ring motor.

STATIONARY SAMPLING SYSTEM

STATIONARY AUGER SAMPLING SYSTEM



The samples are retrieved using the hydraulic boom with telescopic arm with Auger assembly. Unique design ensures retrieving samples from any point any depth inside the coal trucks or rail wagons using the methods of "Stationery auger sampling system", which ensures fast and representative samples.

Working Principle

Stationery auger system is basically a vertically oriented section of screw method which rotates within a particular pipe. The bottom section will have a wear resistant cutting tip that helps the subject gets loosens and can be collected in that cylindrical hollow section and sampled. Materials then travels upto the Auger Spool until the desired quantity gets collected. If the full auger increment has to be collected, the collected samples will be discharged. If the auger increment is to be split, the material passes from the top of the Auger tube and through a fixed splitter where the rejection portion falls back in to the Truck Or Rail wagon.

Once the Auger increment being collected in the Spool, the auger is maneuvered to a sample bin. There could be multiple bins for collection of designated samples which again can be sent for further subsequent sample processing with the help of primary conveyor, primary crusher for size reduction and may be for secondary conveying with further crushing with rejection handling and sample packaging in small quantity for Laboratory processing. Drawn sample can be packed in a auto-operated packing machine. Sample can be packed in a tamper proof pouch with a barcode to avoid human intervention and futher tracking.

Application of Stationery Auger Sampling System :

Stationery Auger sampling system are incorporated into a wide variety of applications but are most frequently used for Truck beds, Rail wagons , open top shipping containers. Bulk materials that are frequently handled includes coal, coke, crushed ores, manganese ores , pallets ,Coal Tar etc.




STATIONARY SAMPLING SYSTEM

Benefits of Stationary Auger Sampling:

1. Multiple Auger size options are available to cover the range of common particle sizes encountered.
2. Full and split auger designs are available based on the amount of sample to be drawn
3. Stationary sampling unit available with complete solutions includes material handling/complete sample preparation OR semi portable sampling station could be a solution.
4. Gantry type auger movement (Long travel and cross travel)ensures multiple point sampling.
5. Customized system design based up on customer needs.

| Model | Railway Wagon Sampler | Truck Sampler |
|----------------------------|---------------------------|------------------------------|
| Type | Wagon sampler Bridge type | Truck sampler of bridge type |
| Power | 40-70kw | 40-70kw |
| Single Point Sampling Time | 5min(\pm 2 Min) | 5min(\pm 2 Min) |
| System Design | \geq 8-10 units/h | \geq 8-10 units/h |
| Controlling Mode | Auto/Semi-auto/Manual | Auto/Semi-auto/Manual |

Different type of sampling head for bulk material (nominal top size :S 50mm) is as follows.

| Sampling Head | Picture | Application | Moisture Adaptability | Aperture of Cutter | Max. Sampling mass |
|--------------------|---|--|-----------------------|--------------------|--------------------|
| Rotary Auger |  | Coal, Limestone, Coke, Lump | \leq 15 | Ø 400 | 16 L |
| | | | | Ø 150 | 10 L |
| Long Spiral Auger |  | Coal | \leq 20 | Ø 450 | 110 L |
| Short Spiral Auger |  | Coal Limestone, Pellet, Iron Ore, Zinc Power | \leq 10 | Ø 200 | 15 L |
| | | | | Ø 325 | 25 L |

STATIONARY SAMPLING SYSTEM

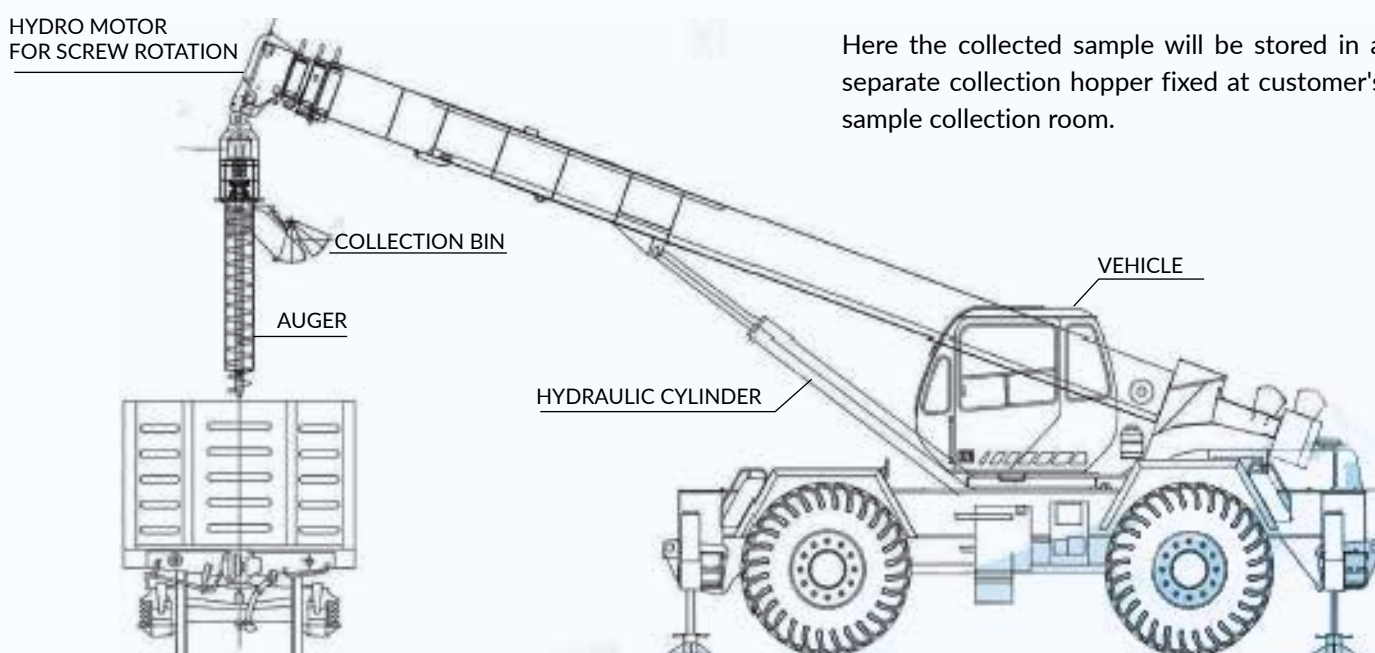
MOBILE AUGER

The Mobile Sampling Equipment (MSE) is the latest innovation from Rexline Engineering Indonesia. REI has been working with the schematics and small models and finally got the opportunity to developed the existing model complete with bin management system. Mobile Auger is specially designed and manufactured for the purpose of collecting samples from trucks/wagons for representative testing & the quality of any mineral by using a mechanized Auger. In Mobile Auger, dimension of the mechanized Auger have been designed as per IS-436 (Part-I/ Section-I) standards, and may be customized. The equipment is mounted on a hydraulically operated retractable arm. It can be raised above the rail wagon and then lowered to collect the designated sample. The rotary motion of the Auger enables it to go down in the heap up to the desired depth and pick up the sample as per need. The MA's motor is reversed and the sample is collected in the desired bin. This complete assembly is mounted on a mobile unit that can easily approach towards the rail-wagon to be sampled.

Basic Description

A true sample of a truck, railcar, open top shipping containers, or any other bin type of containers of coal or any minerals can only be obtained prior to unloading. Once it is unloaded, the individual load mixes with other coals, or minerals and loses its specific characteristics. This type of sample collecting device is one of the modern solution of sample collection at the entry point of Truck or Rail wagon, Auger is mounted on a vehicle and can be moved towards the truck and wagon to collect desired sample.

Mobile Auger with only Collection and storage of sample:



Here the collected sample will be stored in a separate collection hopper fixed at customer's sample collection room.

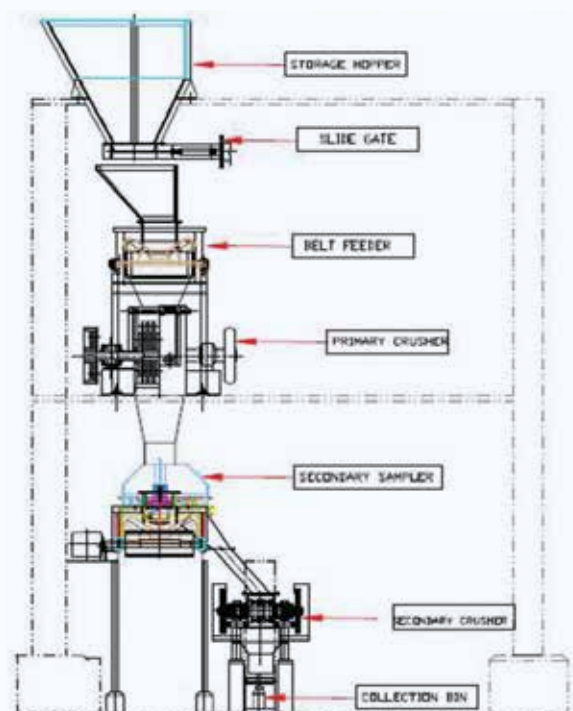
STATIONARY SAMPLING SYSTEM

Mobile Auger with sample preparation system.

This system consist of mobile auger with Collection hopper, Crusher, Belt feeder, Sample Divider, Bottle collector etc. All the equipment other than auger will be installed in a covered container. Here sample will be collected to a storage hopper then it will be discharged to a crusher, the sample will go to a belt feeder through divider it will divided one will go to sample collection bottle through chute and another will go to rejection bin.

Advantages

- >> Rugged design.
- >> Sample extraction from the full material depth.
- >> Works with a range of mineral qualities including wet or dry material.
- >> Short sample extraction cycle.
- >> Automatic operation with one supervisor only.
- >> Operator does not have to leave the cabin to retrieve samples.
- >> Can be quickly relocated to another site if needed.
- >> Reject falls immediately back into truck or railcar being sampled.



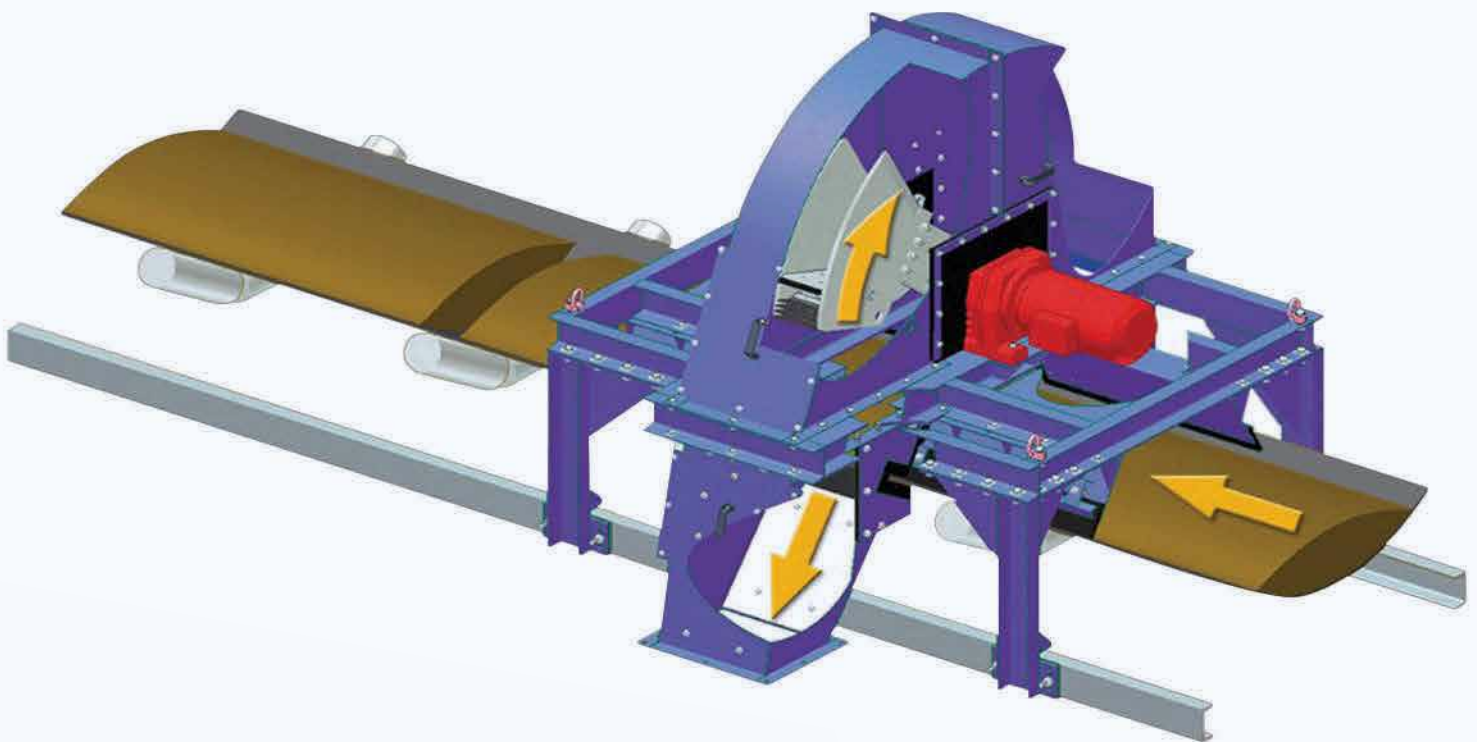
General Technical Data

| | |
|--|--|
| Sampled Material | Coal, Coke, Lignite, Limestone, Bauxite, any others Minerals |
| Size of Sample | 0-250mm |
| Final Sample Size | As per requirement only possible for 2 stage system |
| Quantity of Sample | As per regulation & Customers requirement |
| No of Final Sample Container | 4-12 Nos, as per requirement |
| Overall Dimension | 2.5mtr * 7 mtr * 6mtr (w*I*h) |
| Auger Diameter | Max 500mm |
| Boom Length | Max 7mtr |
| Auger Speed | 45 to 120rpm |
| Operating Media | Through Hydraulic system |
| Environmental Protection of Auger Control Panel | IP 54 |
| Working Temperature | -400 °C to 550 °C |

STATIONARY SAMPLING SYSTEM

CROSS BELT SAMPLER

The Cross Belt Sampler obtains a representative sample of any mineral direct from a moving trough conveyor. The unit has a single direction motion which sweeps the belt clean and discharges the material into a fixed type collection chute positioned at the side of the trough belt conveyor. The Cross Belt Sampler comprises a sample cutter attached to a drive shaft carried in bearings which are mounted on a channel section base frame. This is positioned directly above the trough belt conveyor. The base frame is usually fixed onto a support structure anchored at the local floor level or to the conveyor stringer.



Basic Features

1. Can be installed for sampling of coal, coke, copper, precious metals, salt, sand, stone, gravel, iron ore, and other bulk materials, etc.
2. Idler trough angles of between 20° to 45° .
3. Suits belts from 450 mm to 2500 mm wide.
4. Suit upto belt speed of 6mtr/sec.
5. Durable stainless or Mn steel sample cutter scoop design.
6. Computer generated design models in Inventor for correct sampling.
7. New skew cutter designs to reduce material disturbance and eliminate spillage.
8. PLC / Timer based control panel to operate the equipment automatic/ Semi-automatically.

STATIONARY SAMPLING SYSTEM

Benefits:

1. Cost-effective sampling solution.
2. Easier to install than other sampling equipment.
3. Incorporates the belt contouring system for correct sample extraction.
4. Multiple duty class designs are available, including standard-duty, heavy-duty, and extreme-duty.
5. Designs suitable up to 10,000 tph are available.
6. Standard electro-mechanical drives and brakes with other heavy-duty drive and braking options are available.
7. Multiple access ports to inspect and maintain all working components.
8. Robust design intended for long-term reliability in harsh applications.

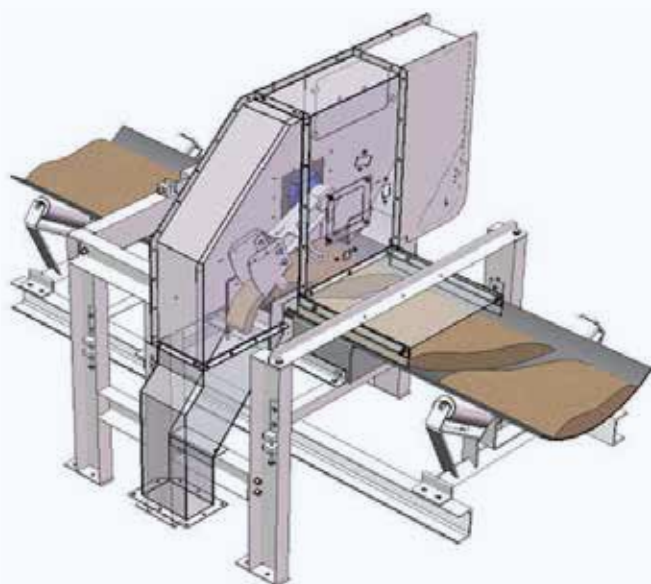
Model of Cross belt Sampler :

| Belt Size | Touching Angle | Power Requirement | Model |
|-----------|----------------|-------------------|----------|
| 650 mm | 20° | 1,5 KW | REI6520 |
| | 30° | 1,5 KW | REI6530 |
| | 35° | 1,5 KW | REI6535 |
| | 45° | 1,5 KW | REI6545 |
| 800 mm | 20° | 3,7 KW | REI8020 |
| | 30° | 3,7 KW | REI8030 |
| | 35° | 3,7 KW | REI8035 |
| | 45° | 3,7 KW | REI8045 |
| 1000 mm | 20° | 5,5 KW | REI10020 |
| | 30° | 5,5 KW | REI10030 |
| | 35° | 5,5 KW | REI10035 |
| | 45° | 5,5 KW | REI10045 |
| 1200 mm | 20° | 7,5 KW | REI12020 |
| | 30° | 7,5 KW | REI12030 |
| | 35° | 7,5 KW | REI12035 |
| | 45° | 7,5 KW | REI12045 |
| 1400 mm | 20° | 7,5 KW | REI14020 |
| | 30° | 7,5 KW | REI14030 |
| | 35° | 7,5 KW | REI14035 |
| | 45° | 7,5 KW | REI14045 |
| 1600 mm | 20° | 9,5 KW | REI16020 |
| | 30° | 9,5 KW | REI16030 |
| | 35° | 9,5 KW | REI16035 |
| | 45° | 9,5 KW | REI16045 |
| 1800 mm | 20° | 11 KW | REI18020 |
| | 30° | 11 KW | REI18030 |
| | 35° | 11 KW | REI18035 |
| | 45° | 11 KW | REI18045 |
| 2000 mm | 20° | 11 KW | REI20020 |
| | 30° | 11 KW | REI20030 |
| | 35° | 11 KW | REI20035 |
| | 45° | 11 KW | REI20045 |



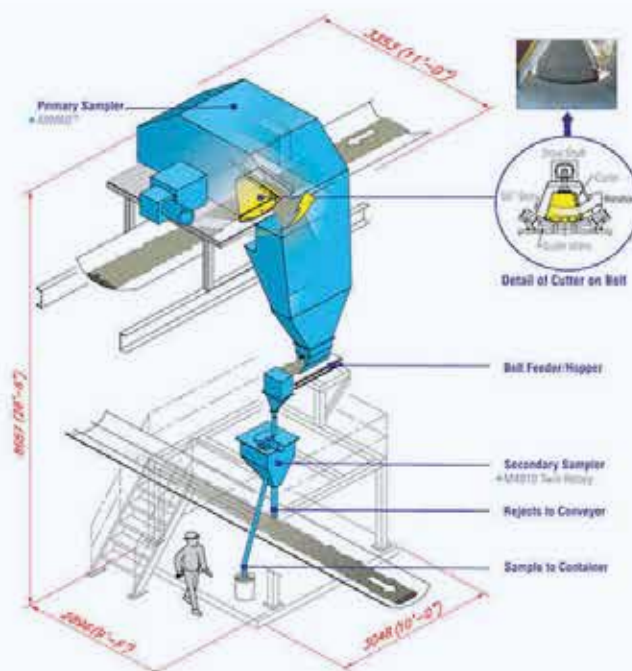
STATIONARY SAMPLING SYSTEM

Conventional Cross Belt Sampler



The Rexline Engineering Indonesia Conventional Cross Stream Sampler is custom designed to be an integral part of the main conveyor head chute which meets the client's specific requirements. The Cross Stream sampler is typically installed in new applications where large primary sample increments are required or space limitations exist prohibiting the installation of a Rotary Sweep Sampler along the conveyor. The REE Cross Stream Sampler is available with either an electro-mechanical drive mechanism or hydraulic/ pneumatic drive mechanism.

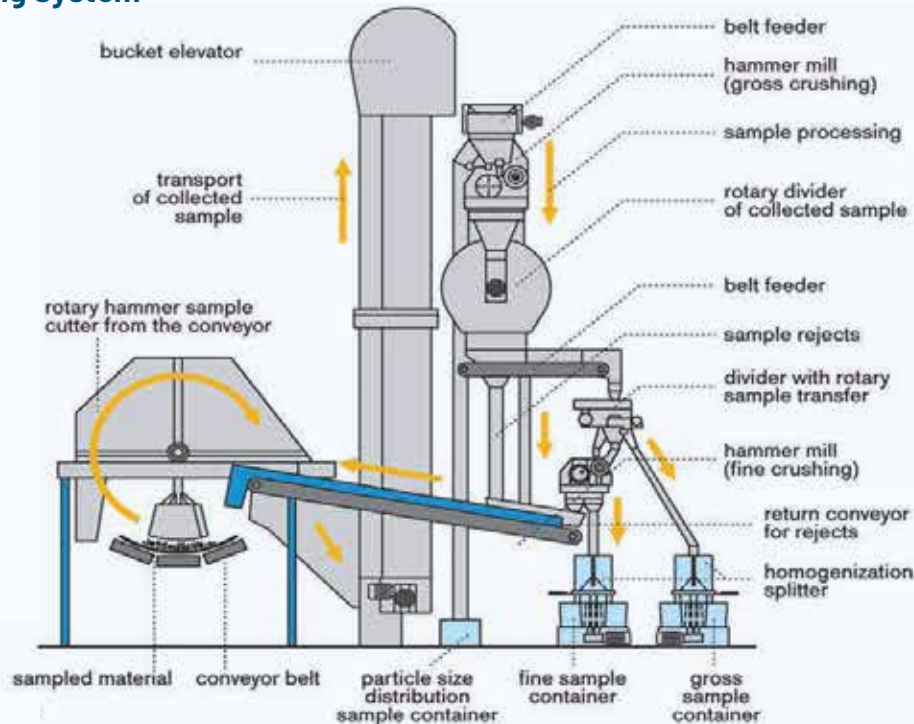
2-Stage Sampling System



The 2-Stage Sampling System is the most common system arrangement. This arrangement includes a sealed primary sample receiving chute, primary belt feeder, sample crusher, secondary sampler, sample collector, and reject handling system (Screw Conveyor, Belt Feeder, or Bucket Elevator). The primary belt feeder feeds the primary sample increments to the sample crusher where the sample increments are typically reduced to a 4-mesh product. The product from the crusher is gravity feed to a Belt feeder where secondary sampler is installed which takes a secondary increment. The secondary increment is also gravity feed and stored in a sample container. The reject handling system returns the reject to the main conveyor for most installations.

STATIONARY SAMPLING SYSTEM

3-Stage Sampling System



The 3-Stage Sampling System are also widely known as tertiary sampling system, is typically utilized with the Conventional Cross Stream Sampler which produces a very large primary sample increment and requires an additional stage of processing to reduce the sample to a manageable size. This arrangement includes a sealed primary sample receiving hopper, primary belt feeder, secondary sampler, secondary feeder sample crusher, tertiary sampler, sample collector, and reject handling system.

The primary belt feeder feeds the primary sample increments to the secondary sampler, the secondary sample increments are fed via the secondary feeder to the sample crusher where the sample increments are typically reduced to a 4-mesh product. bucket elevator The product from the crusher is gravity fed to a tertiary sampler which takes a tertiary increment. The tertiary increment is gravity fed to a save sample container. The reject handling system returns the reject from the secondary sampler and tertiary sampler to the main conveyor for.

Control Panel For Cross Belt Sampler

- >> Monitoring can be done through D.C.S.
- >> Scoda system will help to monitor recent trend.
- >> System can be operated through PLC.
- >> Barcode can be generate
- >> and stick on sample pouch.



STATIONARY SAMPLING SYSTEM

SCREW SAMPLER

The Screw Sampler is designed to create an average sample from continuous extraction of dry non-sticky powdered material from a free falling flow of materials.

The continuously operating sampler is driven by a geared motor, coupled to a transport screw crossing the flow of material. The screw transports the extracted material to a mixing tank, where it is homogenized by mixer wings connected to the through going screw conveyor shaft. The sampler can be delivered with the drive unit installed next to the mixing tank.

Basic Features

- >> Installation in silos or downpipes possible.
- >> Different diameters for screw samplers available.
- >> Sample quantities, runtimes and pause times individually adjustable thorough a control electrical panel.
- >> Automated or manual sampling method.
- >> Easy-to-dismantle version for simple cleaning.



Technical Specification

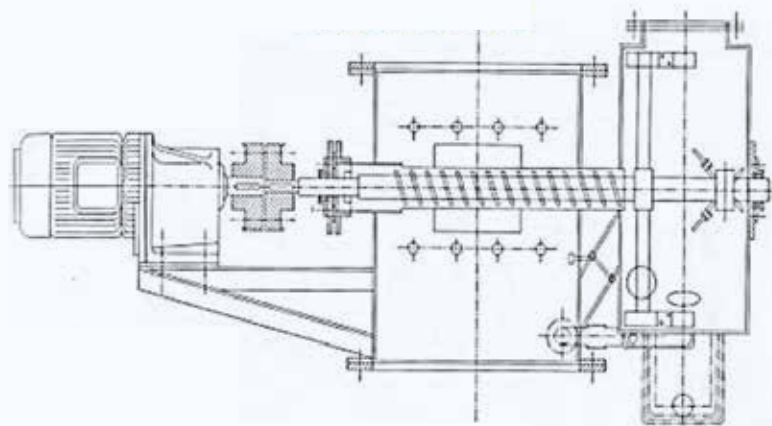
The sampling screw rotates into the material flow, extracts a representative cross-section from the production flow and transports it into a sample vessel. An adjustable timer determines the sample quantity. Runtimes and pause times between two sampling operations are individually configurable. Before starting a further sampling process, the screw changes to reverse operation for a selfcleaning cycle. The product conveyed during the self-cleaning process is fed back into the production flow. The control of the sampler is normally conducted from a central PLC system but we also provide local control panels with or without a PLC. Downpipe: The sampler is installed between two flanges inside the downpipe. Silo: The sampler is installed to a nozzle welded to a silo wall.



STATIONARY SAMPLING SYSTEM

Benefits :

- >> For contamination-free sampling.
- >> Low-servicing requirement.
- >> Size of the sample can be defined as required.
- >> Immediately after sampling, sample falls into a bag or beaker attached to the discharge connection.
- >> There is no chance of compact due to mixing chamber is there just after screw for abrasive and sticky material.



- Manually
- Motorized

Rather than the above there are also so many type of sampler used in various industries as per Customer requirement or feasibility.



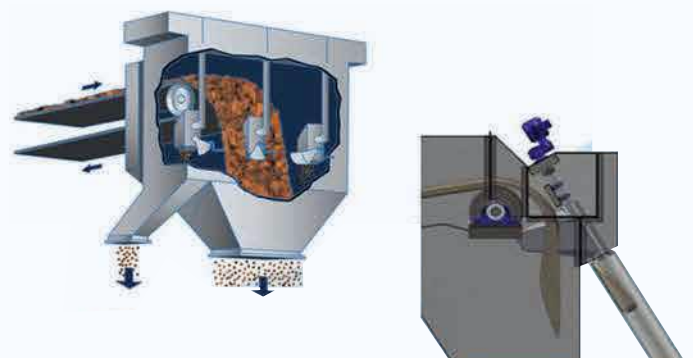
Vezin Sampler

Vezin Sampler is also known as Gravity Feed sampler is designed to collect the sample from free flow of a chute for any type of material.

This type of sampler design requires very little space and collects representative samples from sloped gravity chute areas. When activated, a sample cutter pivots through the product stream, sweeping a complete 360-degree arc, collecting a true cross-cut sample. Sample cutter is parked away from the stream of material and is sealed when not sampling.

Belt End Sampler

Belt End Sampler used at the discharge point of any conveyor belt to collect the representative sample. General use of this type of sampler is To and Fro type.



ISO CERTIFICATES



CERTIFICATE OF REGISTRATION

INTERCERT QA hereby certifies that Environmental Management System of

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Fabrication, Weighbridge, Crushing Systems, Wear Protection, Bulk
Material Handling Systems, and Workshop/Wearhouse Construction**

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| Expiry Date | : 14-03-2024 |
| Recertification Date | : 14-03-2025 |

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