

TECHNICAL SPECIFICATION

TS-58 (190ft) RADIAL TELESCOPIC STACKER



TS-58 – RADIAL TELESCOPIC STACKER



The TS-58 Radial Telescopic Stacker offers a unique material handling solution for the Quarrying, Mining, and Rail Transportation industries and can also be utilised in Ports & Inland Terminals for Ship/Barge Loading and Unloading. The radial, telescopic and luffing features allows the operator full control when stockpiling a range of materials whilst eliminating segregation, degradation, contamination and compaction of material. The innovative design allows for up to **+30%** larger stockpile capacity when compared to conventional fixed length conveyor systems.

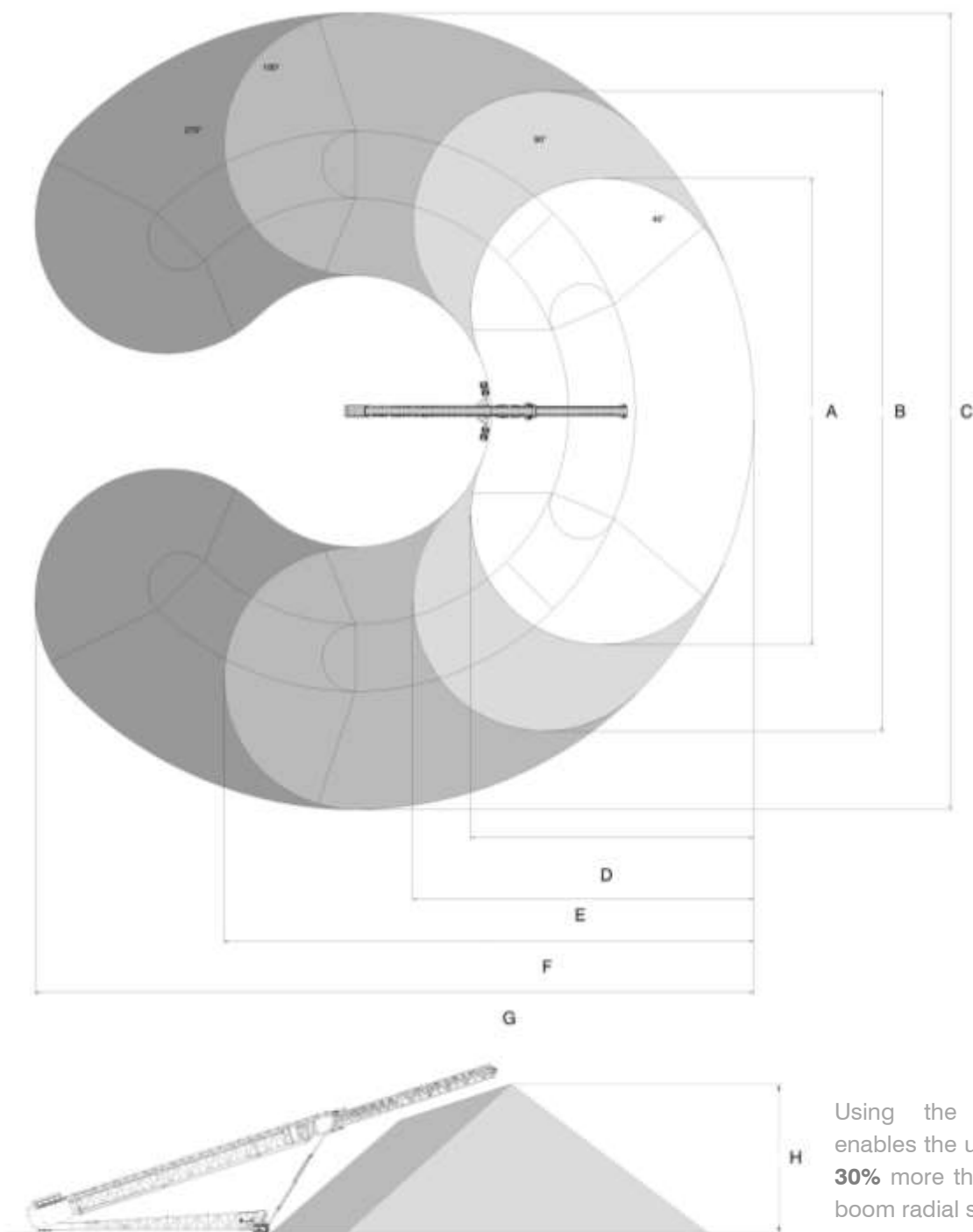
TS-58 – TYPICAL APPLICATIONS

- Stockpiling (Automatically) from secondary crushers and screens.
- Stockpiling crushed stone, sand and gravel, mineral ores.
- Stockpiling construction and demolition waste, top soil, coal, grain etc.
- Receiving crushed material and stockpiling safely over a quarry face/bench.
- Working as part of a mobile system on short to medium term projects.
- Ship loading directly to vessels.
- Loading directly to trucks or rail wagons.
- Telescopic mobile link conveyor.

TS-58 – KEY FEATURES

- Can be packed into 40ft containers, which ensures easy and cost effective transport around the globe. On site assembly 1 - 2 week.
- Conveying material reduces dust levels, noise levels and carbon footprint.
- Conveying material eliminates the high cost of dump truck or shovel haulage and is the most cost-efficient and environmentally sound method of material transfer.
- Increased production capacities
- Lower capital investment
- Flexible and reliable mobile material handling equipment
- Reduced labour and operator costs
- Eliminate segregation, degradation, contamination and compaction.
- Minimal civils' and planning permission required as it is mobile equipment.

TS-58 – STOCKPIILING CAPABILITIES



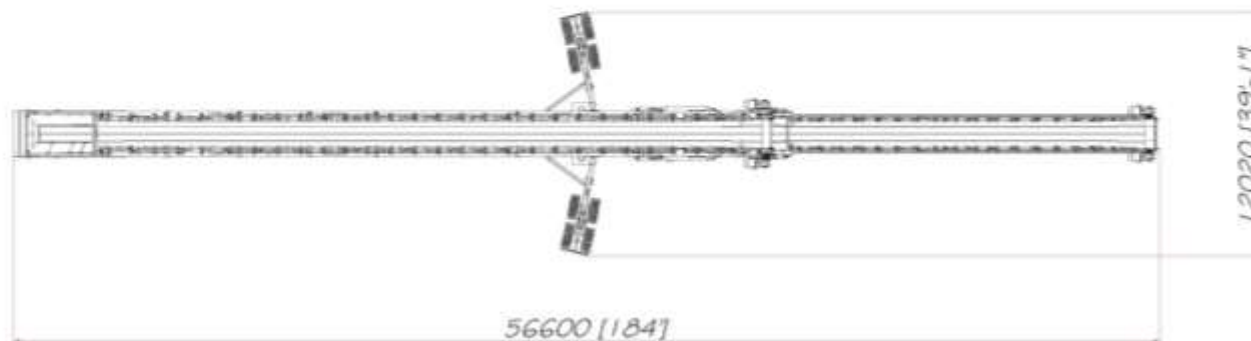
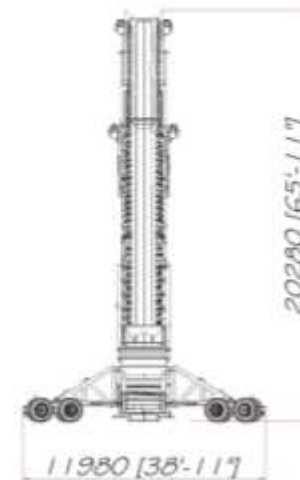
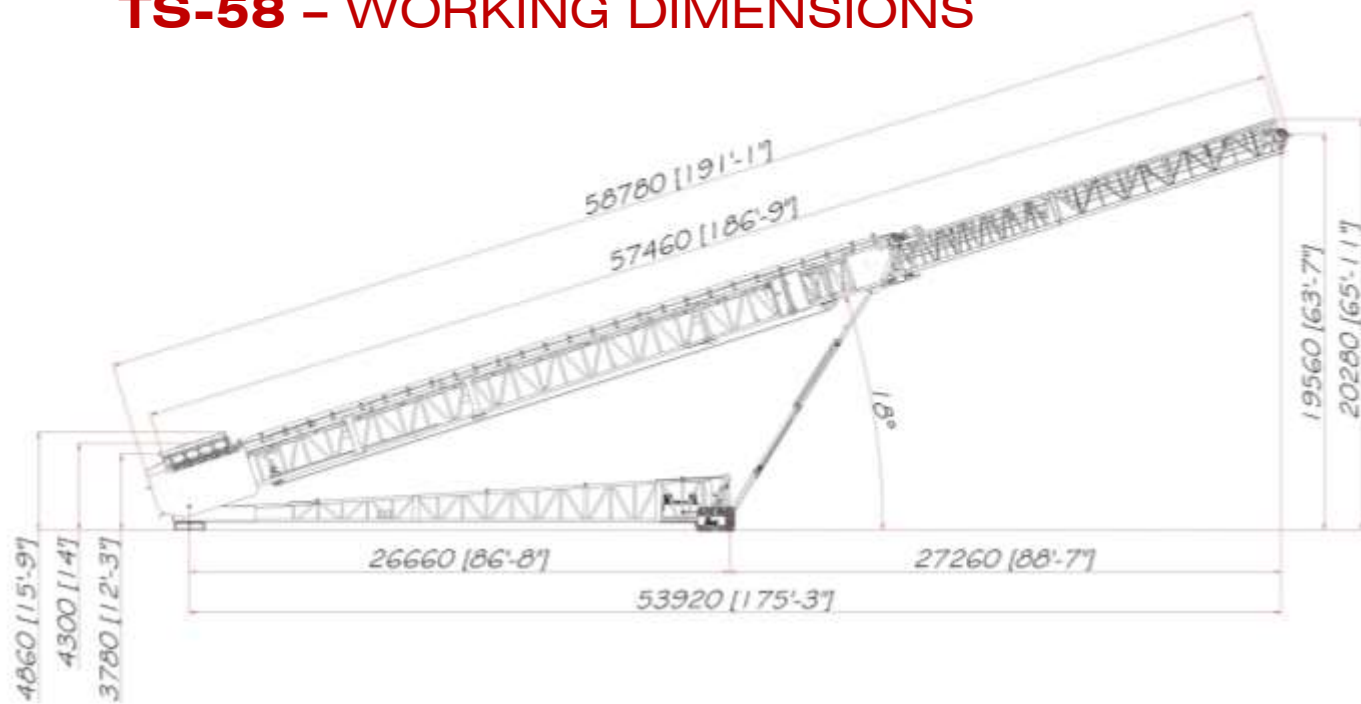
Using the Telescopic feature enables the user to stockpile up to **30%** more than conventional fixed boom radial stacking conveyors.

All stockpiling capacities are calculated based on material, with a bulk density of 1.6 tonnes per m³ (100 lb/ft³)
Stockpile angle of repose 37°

Detail	Stockpile Dimensions	
	Metric	Imperial
A	93.36m	303' 5"
B	127.98m	415' 11"
C	159.24m	517' 6"
D	56.56m	183' 10"
E	68.14m	221' 5"
F	105.84m	344'
G	143.60m	466' 9"
H	17.82m	57' 11"

	Stockpile Capacity (Volume)		Stockpile Capacity (Mass)	
	m ³	yd ³	Tonnes	Ton
0°	11,928	15,601	19,085	20,993
45°	33,696	44,073	53,914	59,305
90°	55,463	72,543	88,741	97,615
180°	98,998	129,484	157,397	174,236
270°	142,535	186,427	228,054	250,86

TS-58 – WORKING DIMENSIONS



	Metric	Imperial
Overall Length (Conveyor)	58.78m	191' 1"
Machine Working Length (18°)	56.60m	184'
Discharge Height (18°)	19.56m	63' 7"
Feed in Height (Rear)	4.3m	14'
Operating Width	11.98m	38' 11"

TS-58 – TRANSPORT DIMENSIONS

	Metric	Imperial
Transport Length	34.26m	112' 6"
Transport Width	3.70m	12' 2"
Transport Height	6.54m	21' 6"
Overall Weight	40,000 Kg	88,185 Lbs
Unit can also be transported in a 40' High cube container.		

TS-58 – MACHINE FEATURES

Feedboot/Counterweight

- Tapered style feedboot for larger target area and capacity.
- 127mm (5") rollers closely spaced for extra strength against falling material.
- **Width** - 2.04m (6' 8")
- **Length** - 3.5m (11' 7")
- **Steel** - 6mm (1/4")
- Rubber skirting around bottom of feedboot to create a positive seal inside the feedboot.
- Safety guards at rear pinch points as standard.
- Standard turn table to be bolted/secured to firm base on site.
- Standard healed chain eyes to allow the machine to be lifted from above and moved around site.



Outer Conveyor

- Proven Lattice frame structure gives the conveyor maximum strength whilst reducing overall weight.
- Open Lattice frame design allows for easy accessibility & maintenance, maximising uptime/productivity when compared to enclosed structures
- **Standard:** 900mm (36") wide EP 500 3 Ply, 5mm + 1.5mm Belting
- 127mm (5") diameter troughing rollers set.
- Wing roller angle adjustable.
- 102mm (4") spiral return roller at the head of conveyor.
- 102mm (4") plain return rollers
- 2 x Electric Drive Motor (IP66 and IE3 Rated)
- Primary face scraper located at the head of the conveyor to remove any excess debris from the belt



- Plough Scraper located at tail drum to remove debris from internal surface of the belt
- Emergency rope break system built into every conveyor as standard, which will activate in the unlikely event of a wire rope break scenario



Belting

Tonnage (Tph)	Table Of Belting		
	Outer Conveyor	Inner Conveyor	Structural Upgrade Required
200	900mm (36") EP 500, 3 Ply, 5mm + 1.5mm (Standard)	900mm (36") wide EP 500 3 Ply, 5mm+ 1.5mm (Standard)	X
500	900mm (36") EP 500, 3 Ply, 5mm + 1.5mm (Standard)	900mm (36") wide EP 500 3 Ply, 5mm+ 1.5mm (Standard)	X
800	900mm (36") EP 500, 3 Ply, 5mm + 1.5mm (Standard)	900mm (36") wide EP 500 3 Ply, 5mm+ 1.5mm (Standard)	X
1000	1050mm (42") EP500, 3 ply, 5mm top 1.5mm	1050mm (42") EP500, 3 ply, 5mm top 1.5mm	X
1200	1200mm (48") EP630 / 4 ply, 6mm top 2mm	1200mm (48") EP630 / 4 ply, 6mm top 2mm	✓
1500	1200mm (48") EP630 / 4 ply, 6mm top 2mm	1200mm (48") EP630 / 4 ply, 6mm top 2mm	✓
2000	1400mm (55") EP630 / 4 ply, 6mm top 2mm	1400mm (55") EP630 / 4 ply, 6mm top 2mm	✓
2500	1400mm (55") EP630 / 4 ply, 6mm top 2mm	1400mm (55") EP630 / 4 ply, 6mm top 2mm	✓
3000	1500mm (60") EP630 / 4 ply, 6mm top 2mm	1500mm (60") EP630 / 4 ply, 6mm top 2mm	✓

***Note:** Structural upgrade will add significant cost and weight of the final design of the machine

Inner Conveyor

- Plough Scraper located at tail drum to remove debris from internal surface of the belt
- Emergency rope break system built into every conveyor as standard, which will activate in the unlikely event of a wire rope break scenario
- **Standard:** 900mm (36") wide EP 500 3 Ply, 5mm+ 1.5mm Belting
- 127mm (5") diameter troughing rollers set.
- Wing roller angle adjustable.
- 102mm (4") spiral return roller at the head of conveyor.
- 102mm (4") plain return rollers.
- 2 x Electric Drive Motor (IP66 and IE3 Rated)
- Primary face scraper located at the head of the conveyor to remove any excess debris from the belt.
- Plough Scraper located at tail drum to clear inside of belt of any material.



- Plough Scraper located at tail drum to remove debris from internal surface of the belt



Telescopic Winch

- The telescopic conveyor is extended and retracted using a wire rope and winch system.
- Electric Drive Motors, IP 66 Rated as standard and IE3 Efficiency as Standard.
- Heavy duty wire rope used with 13mm (1/2") diameter.



Undercarriage

- Square Hollow Steel (SHS) - Head frame construction. This gives maximum strength at the critical load intersection point.
- Lattice frame undercarriage construction to give a maximum strength-to-weight ratio
- The undercarriage is hydraulically raised and lowered to transfer between radial and transport mode.



Hydraulics

- 11 kW (15 HP) 3 station hydraulic power pack with 125 litres (5 Gallon) reservoir.
- Electro-hydraulic power pack with 50-200 litre oil reservoirs. This power pack operates all hydraulic functions – Raise/Lower conveyor, radial left and right, raise/lower under-carriage and any other hydraulic functions



Radial Arms

- Square Hollow Steel (SHS) – Radial arm frame construction. Lateral folding radial arms held in place by a tie bar.
- Internal hydraulic wheel drive for increased torque over uneven or soft ground.
- 8 x 425 / 65 / 22.5 super single tyre on 10 stud hubs.



TS-58 – PAINT OPTIONS & SPECIFICATION

PRE-PAINT PREPARATION

- All steel work Degreased/Cleansed
- Shot blasted in accordance with standard SA 2.5
- Steel shot blasted with synthetic mineral silicate using a grain size of 0.2 – 1.5mm, to give a high cleaning rate and etch acceptable for coatings.

Option ID	Micron Finish	Coats					Finish range DFT (µm)
		1	2	3	4	5	
Telestack P1 (Standard)	140	K3	PU	PU (Flash)	N/A	N/A	120µm - 155µm
Telestack P2 (Marine)	250	Zinc	K3	PU	PU (Flash)	N/A	250µm - 300µm
Telestack P3 (Special)	300	Zinc	K3	K3	PU	PU (Flash)	275µm - 325µm

- **A – K3 – High Build Two-Pack Epoxy Primer** - A high performance two-pack epoxy primer designed to meet the exacting requirements of the agricultural and construction equipment markets, used in all applications.
- **B – Zinc Rich Epoxy Primer** – Zinc based epoxy primer with capability for high build application, used in Marine and very abrasive applications.
- **C – PU - High Solids Two-Pack Polyurethane Finish** – High performance Two-pack polyurethane designed to meet the exacting requirements of the ACE and materials handlings market, can be used in all applications.

COLOUR

- RAL - 7032– Telestack Cream
- RAL - 3001 - Telestack Red

All steel work fully painted, including inside edges of holes/cut-outs, along edges and underneath/hidden faces not normally viewed.

**(All externally purchased items shall have a nominal DFT of 50-100 µm, as delivered to Telestack. If additional paint is required this must be discussed up front with the sales team.)*

TS-58 – RADIAL STACKER CONTROL SYSTEM

CONTROL PANNEL MIMIC

Machine includes a separate control panel for AC Voltage. Start / stop conveyor from this panel. Features include: Integrated Estop, Machine start stop, Fault Reset, Dual Language Mimic, Isolator, etc.

DUAL LANGUAGE MIMIC

FAULT DIAGNOSTICS (L.E.D)

Fault-diagnostic panel, with L.E.D indications that will highlight any faults within the conveyor system for easy review and resolution.

PLUG AND PLAY ELECTRICS

Quick link system that enables quick connection between bolted sections, ensuring easy assembly and operation

MALE/FEMALE PLUG SLOTS

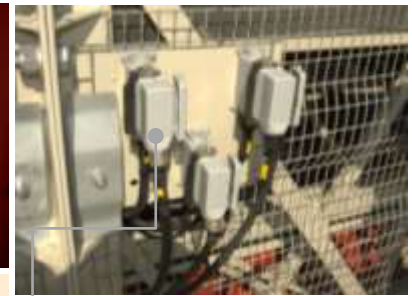
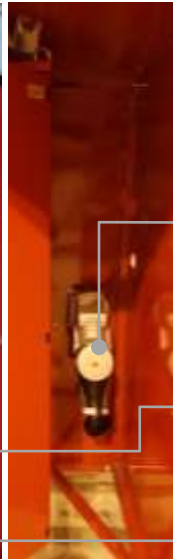
Male and female plug slots for quick connection to 3 phase quayside power.

IP 66 RATED ENCLOSURE

Water/Dust resistant enclosure for optimum electrical component protection against harsh elements and conditions.

MAIN ISOLATOR

Main safety measure for switching off all machine functions



TS-58 – OPTIONAL EXTRAS

MOBILITY OPTIONS

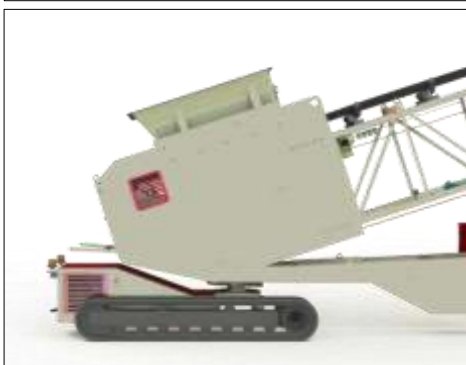
RADIAL PLINTH (STANDARD)

Radial plinth allows the machine to be bolted/fix to the ground in a static/stationary application. Plinth allows the machine to radial left and right.



DIESEL/ELECTRIC TRACKED BOGIE

Diesel Hydraulic/Electro-Hydraulic driven tracks for site movement with pendant remote control to allow self-propelled site movement (*Rubber track pads upgrade optional*).



WHEELED DOLLY UNIT

Wheeled dolly unit with integrated tow hitch that allows the machine to be transported around site via wheel loader or other ancillary on-site vehicles.



ALL WHEEL TRAVEL MODE

Self-propelled All Wheel Travel System for optimum mobility for stacker relocation



RADIAL PLINTH (STANDARD)



WHEELED DOLLY UNIT



DIESEL/ELECTRIC TRACKED BOGIE



ALL WHEEL TRAVEL SYSTEM

ELECTRICAL OPTIONS

- **Radio Remote Control**
 - o Controls the conveyor's raise / lower, slewing left / right, telescopic in / out and conveyor start and stop functions, also including an emergency stop. (All function remote control).
- **Isolators on Each Individual Motor**
 - o Additional safety measure for conveyors which do not have access walkways, double trapped key locks and gates.
- **TSRM and Plug and Socket to Interlock Auxiliary Mobile Equipment**
 - o A quick link system to enable the Telestack conveyor to connect to the feeding conveyor, to ensure that there is communication between both units. Requires tail shaft rotation monitor option also.
- **Secondary Safety Limit Switches on Wheel Drive**
 - o This provides a double back-up of secondary limit switches on each wheel drive and physical bars situated on the wheel drive path to eliminate any possibility of the conveyor traveling beyond its intended radial slewing distance.
- **Pull Chords on Dual Access Walkways**
 - o This provides another safety feature when availing of the dual access walkways. Pull chords are installed the length of each side of the walkway including e-stop controls.
- **Belt Rip Detection**
 - o This is a safety feature which indicates to the operator is the belt is ripped and atomically stops the conveyor to minimise further damage. This is specifically used when handling sharp materials, in which the operator can monitor the belt integrity.
- **Anti-Collision Tilt Switches**
 - o This is another safety feature which ensures that the unit does not collide with any other equipment on site. This minimises operator errors and potential damage to the conveyor.
- **Stainless Steel Housing for Electrical Components**
 - o Eliminates possible rust or corrosion very harsh conditions by enclosing important electrical components in stainless steel housing.
- **L.E.D Lighting**
 - o This is lighting installed on the discharge points of both outer and inner conveyor to allow for night time operation. This ensures that production rates are maintained throughout the operation.
- **Change Over Switches (Change from gen-set power to 3 phase electric power)**
 - o Changeover switch fitted in control panel + 1 x plug and socket control panel. With isolator, MCCB, contactor, plug and socket fitted.
- **Belt Skewing Switches (Inner & Outer Conveyor)**
 - o A system to warn the operator if the belt is drifting unnecessarily to either left or right hand side.
- **Emergency Rope Break System**
 - o Safety brake device / clamp used to control the inner boom. Will activate in unlikely event of rope break scenario of the inner conveyor.
- **Winterisation Upgrade (Operation down to minus 40 degree applications)**
 - o This includes: Contactors in panel, heating to hydraulic tank, Low temperature hydraulic oil, Anti-condensation heating to drive motors, LED emergency light in panel, Control panel heaters, Electrical cabling to minus 40 degrees, Motor and Gearbox upgrades, Winterised bearing upgrade, belting upgrade.
- **Enclosed Integrated Generator Set into Undercarriage of conveyor**
 - o Tier 2 generator that allows the conveyor to operate and move independently without the need for an external power source (Tier 3 and 4 Models Available)
- **VSD (Variable Speed Drive)**
 - o Mounted in the electric control panel, allowing the operator to adjust the speed of the belting to increase/decrease throughput
- **Operator Cabins**
 - o Enclosed operator cabins with the option for light, heat and air conditioning
- **Miscellaneous Electrical Options**
 - o Blocked Chute Probes
 - o Ultrasonic Height Sensor with timer for stockpiling
 - o Tail Shaft Rotation Monitors
 - o ATEX Conformity
 - o Visual and Audible Alarms
 - o Anti-condensation heaters in motors
 - o Air conditioned electric control panel



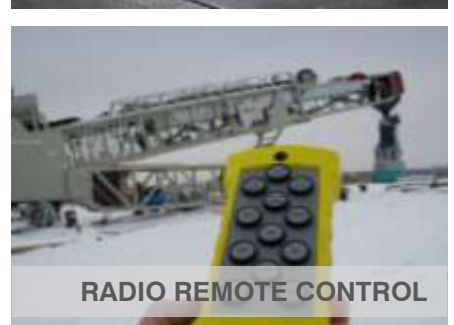
CONTROL PANNEL



INTERGRATED GEN-SET



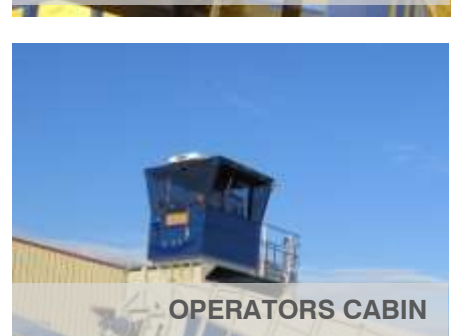
LED FLOOD LIGHTS



RADIO REMOTE CONTROL



BELT SKEWING SENSORS



OPERATORS CABIN

WALKWAYS

- **Dual Access Galvanized Walkways on Outer Conveyor**
 - This allows for easy servicing, monitoring and maintenance of the conveyor in use. Also, it increases the safety of the operator on site.
 - This includes galvanized flooring, kick plates and hand-railing
- **Gates at Top of Steps for Security and Safety**
 - This is an effective safety feature which ensures the conveyor cannot be turned on or operated when maintenance is taking place from the walkway.



WEAR LINERS & HOPPER EXTENSIONS

- **Hopper Feed-boot Extension**
 - Increased hopper height to reduce dust or spillage when discharging into the feed area during surges of material. This also allows for a wider target area for the feeding equipment.
- **Fully Sealed Feedboot**
 - Extended length feedboot, enclosed with circular inlet, with material deflectors, extended skirting and double sealing (Recommended for free flowing and dusty applications)
- **Abrasive Resistant Lining in the Feed-boot and Transfer Point**
 - Bolted into the feed-boot and transfer point (Outer to inner) to prolong the life and resistance of the feed-boot to wear. Used in applications with large lump sizes and abrasive material.
- **ULFPL Lined Tapered Feed-boot and Transfer Point (Low friction liners)**
 - Bolted into the feed-boot and transfer point (Outer to inner) to allow the sticky material to flow freely at these points. These low friction liners ensure the sticky material does not block the material transfer points.



BELT WEIGHTERS AND IMPACT PROTECTION

- **Single Idler Belt Weighing System**
 - Installed on the conveyor to provide accurate measurement and recording of batch weights, flow rates and belt speed. This is installed just passed the feed-boot for maximum efficiency.
- **Double Idler Belt Weighing System**
 - Installed on the conveyor to provide accurate measurement and recording of batch weights, flow rates and belt speed. The double idler is installed just passed the feed-boot (2 x idlers) for maximum efficiency and accuracy.
- **USB Data Logging System to Download Information from Belt Weigher to PC**
 - This is an optional upgrade to the Belt weigher control panel for extracting all the information from the panel into your computer system for review and analysis in a table format
- **Impact Bed Under Feed-Boot and Impact Centre Rollers on Inner Conveyor**
 - Upgraded impact bed under feed-boot for increased protection in transfer point for larger lump sized material. This minimizes the impact and wear in this area
 - The impact centre rollers on the length of the inner conveyor provide protection on the transfer from outer to inner conveyor. They are included the entire length so depending on the position of the telescopic inner there is protection provided throughout



USB DATA LOGGER



IMPACT CENTRE ROLLERS



LOW FRICTION IMPACT BED

MISCELLANEOUS

- **Hydraulic Oil Upgrade**
 - **U68 Hydraulic Oil in Hydraulic Tank** – This is specialized hydraulic oil for operation in hot climates and specific temperatures to ensure optimum operation in the hydraulic system
- **Roller, Scraper and Drum Options**
 - **2 Belt Tracking Rollers - Includes 2 x rubber lagged return rollers (Outer and Inner Conveyor)** – This is recommended upgrade to ensure the belt is tracking when handling ranges of material and when the ship-loader is being fed at different heights and angles
 - **Ceramic Lagging on the Drive Drums** - Ceramic lagged head drive drum to increase traction of drive drums on the belt. Both inner and outer head drums are ceramic lagged
 - **Rubber Lagging on Non-Drive Drums** - Rubber lagged tail drive drums to increase traction of tail drums on the belt. Both inner and outer tail drums are rubber lagged.



CERAMIC LAGGED DRUM



SELF ALIGNING TRACKING ROLLER

AUTOMATIC STOCKPILING SYSTEM OPTIONS

PLC Automatic Stockpiling System

The radial, telescopic and luffing features of the Telestack conveyor range allows the operator full control when stockpiling a range of materials whilst eliminating segregation, degradation, contamination and compaction of material.

Option 1

- Telestacks fully automated stockpiling software, provides a high quality solution in the prevention of material segregation and degradation.
- The fully programmable PLC controller provides this clever solution with a versatile, ergonomic and reliable stockpiling system.
- Allen Bradley Automated Windrow Stockpile Programme including software, height level & material sensor and limit switches.
- Significantly reduces stockpile segregation, degradation and contamination with windrow stockpiling. Automates the entire stockpiling process which greatly reduces labour costs.
- One program option available. **1 x Fully Automatic Windrow Stockpiling Program.**



SAFETY & INDUSTRY STANDARDS

All Telestack machines are compliant with the following standards:

- **BS EN 618:2002 +A1:2010** - Continuous handling equipment and systems.
- **BS EN 953:1997+A1:200** - Safety of Machinery - Guards
- **BS EN ISO 13857:2008** Safety of Machinery - safety distances to prevent hazard zones being reached by upper and lower limbs
- **BS EN ISO 12100:2010** - Safety of Machinery - General principles of design - Risk assessment and risk reduction
- **BS EN ISO 13850:2008** - Safety of Machinery – Emergency Stop Equipment
- **BS EN 60204-1:2006 + A1:2009** - Safety of Machinery – Electrical Equipment of Machines
- Safety and EMC requirements for equipment for mechanical handling of bulk materials except fixed conveyors
- **CE Certified** 

QUALITY & MANUFACTURING STANDARDS

Scope of Supply - The Design, Manufacture and Installation of Bulk Material Handling Systems – Servicing Ports, Mining and Quarrying Industries on a Global Scale

- **ISO 9001:2008** - Quality Management Systems Certified
- **ISO 14001:2004** - Environmental Management Certified
- **OHSAS 18001:2007** - Occupational Health and Safety Management



TS-58 – TRANSPORT & INSTALLATION

Containerisation

- Telestack units can be packed into 40ft (12m) containers for efficient and economic global travel
- The equipment is designed, manufactured, built and fully tested in the factory before dispatch
- The client can inspect the completed unit during the testing procedure in the Telestack for approval if required

'Ro-Ro'

- Units shipped fully assembled

Flat-Bed/Trailer Transportation

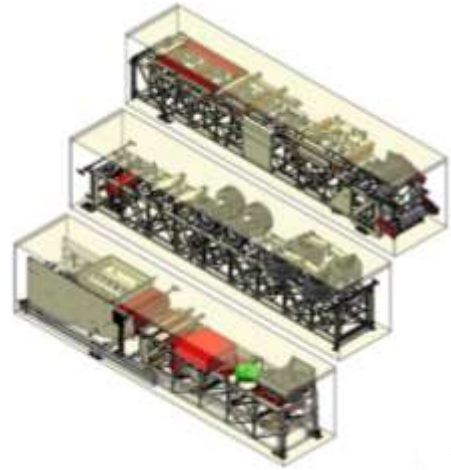
- Shipped in 2/3 large pre-assembled sections for quick setup on site

Assembly

- Typically assembly time is approximately 3-4 days for a typical Radial Stacker
- All sections are bolted together so no welding is required on site
- All units are pre-wired with each unit using plug-&-socket technology for interlinking the sections and auxiliary equipment, eliminating complex electrical work on site
- The units include fully built and tested hydraulic systems, eliminating complex assembly on site

Testing & Training

- All units are fully assembled, quality checked, tested and broken down before they left the factory significantly reduce commissioning time on site
- Telestack can supply (If required) an installation engineer to oversee the process, dry/wet commission the unit and provide detailed training for the operators



AFTERSALES

Dedicated Facility With A Dedicated Team - Telestack after-sales department quickly solve problems to ensure the safe and efficient operation of Telestack equipment in the field and support regular maintenance and uptime of the product. Parts packages are tailored to suit the equipment, the application and the location.

The Correct Part First Time, Every Time – Our spare part team does extensive research into ensuring that you receive the correct parts ASAP. Telesatck will go above and beyond to get your machines up and going. All of our Telesatck Spares teams do extensive internal training regarding the spare parts on your machine.

Consistent Quality that you Have Come to Expect from Telestack – Consistent quality is at the heart of what we do. Internal quality checks exist to ensure that you receive the correct part and that is of sufficient quality.

What We Do – Within the Spares department we continuously build and develop strong relationships with our customers, putting your needs at the fore. Particularly in relation to after ales support, spare parts queries, shipping and transport and assistance with technical knowledge where possible. We have a team dedicated to assist you with all issues relating to after sales

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**THE
POWER
TO MOVE
MATERIALS**

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