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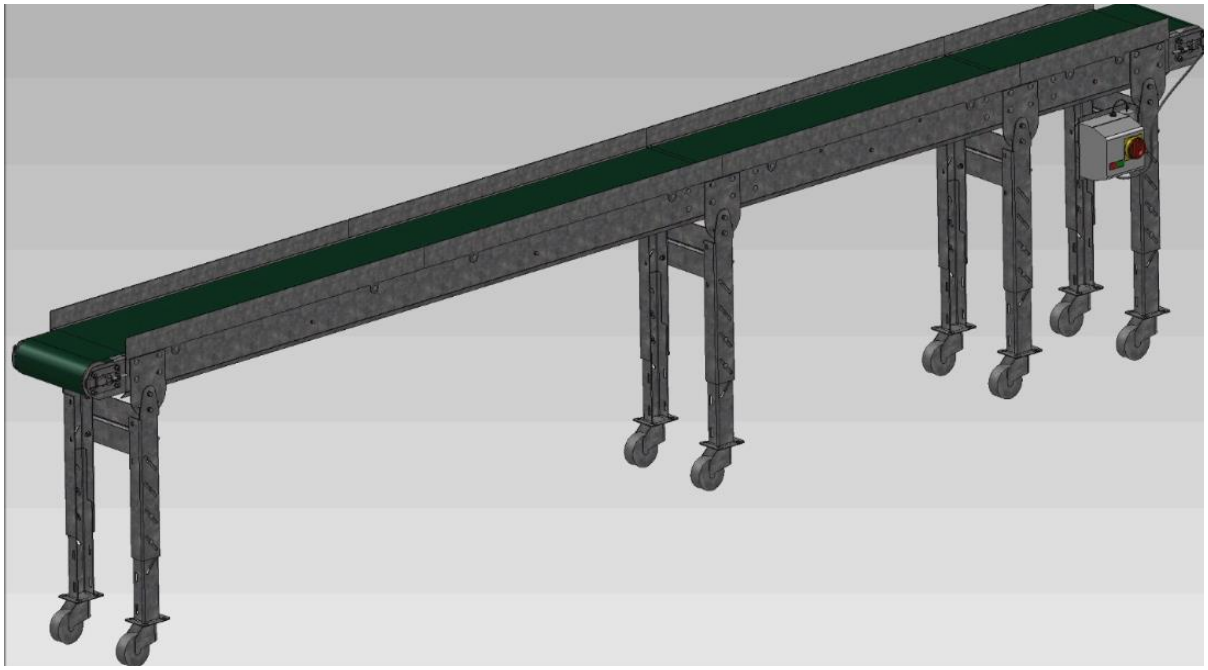
EASIBELT

INSTRUCTION MANUAL

EASIBELT

EB300 - EB600 - EB900



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EASIBELT

MODULAR BELT CONVEYOR

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INTRODUCTION

This product is designed to provide years of reliable service throughout its working life.

The unique design of the **Easibelt®** conveyor system is the result of 30 years of research and hands-on experience in the conveyor industry. In depth experience, attention to detail, a commitment to quality and excellent service are the foundations that have built a first-rate reputation and provided complete customer satisfaction.

Please take time to read this Instruction Manual; it will guide you step by step through installation to ensure you get the maximum performance from your conveyor.

This manual covers installation, parts required, maintenance, CE conformity and warranty conditions.

We, the manufacturers want you to achieve a high level of satisfaction with your **Easibelt® Conveyor System**. If you have any comments or queries, please do not hesitate to contact us:

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support@coveya.co.uk

1. SAFETY INSTRUCTIONS

To use this equipment properly, you must observe the safety regulations, the assembly instructions and the operating instructions to be found in this manual. All persons who use and service the equipment have to be acquainted with this manual and must be informed about any potential hazards. Children and frail people must not use the equipment. Children should be supervised at all times if they are in the area in which the equipment is being used.

It is also imperative that you observe the accident prevention regulations in force in your area. The same applies for general rules of occupational health and safety.

The manufacturer shall not be liable for any changes made to the equipment or for any damage resulting from such changes.

Caution:

1.1. Read all instructions. Failure to follow instructions listed below may result in electric shock, fire and/or serious injury. Always isolate from electrical supply before carrying out maintenance, including changing the belt.

1.2. Prior to assembling your conveyor check components against parts list to ensure that there are no shortages, the assembly should not commence unless all items are present.

2. ENVIRONMENTAL PROTECTION

Recycle unwanted materials instead of disposing them as waste. All parts and packaging should be sorted, taken to the local recycling centre and disposed of in an environmentally safe way.

3. CONFORMITY

Easibelt conforms to relevant safety standards in the country in the EU where the product is purchased. The machinery, taking into account the state of art, complies with, or is designed and constructed so far as it is possible to comply with, the relevant health and safety regulations.

4. TOOLS / PPE / PARTS & PACKING LIST

4.1 Tools and Equipment Required

- Phillips screwdriver
- Adjustable spanner
- Tape measure
- Offset wrench or socket set
- 13mm socket & spanner
- Cordless screwdriver
- Temporary support frames/trestles

4.2 Recommended PPE

- Hard hat
- Gloves
- Goggles
- Safety footwear

4.3 Parts & Packing List

- Supplied separately

5. LIFTING & SUPPORTING

5.1 Manual Handling

- Individual sections should be handled by at least 2 people
- Sections & components over 50kgs will require mechanical handling

WARNING!

OBSERVE CORRECT LIFTING PROCEDURES AT ALL TIMES.
MIND YOUR BACK - THESE SECTIONS ARE HEAVY!

FAMILIARISE YOURSELF WITH THE WEIGHT OF EACH SECTION

Sections – Easibelt 300	Length	Width	Depth	Weight
0.6m Section	600mm	338mm	150mm	12kg
1.2m Section	1200mm	338mm	150mm	20kg
2.4m Section	2400mm	338mm	150mm	37kg

Sections – Easibelt 600	Length	Width	Depth	Weight
0.6m Section	600mm	638mm	150mm	18kg
1.2m Section	1200mm	638mm	150mm	29kg
2.4m Section	2400mm	638mm	150mm	53kg

Sections – Easibelt 900	Length	Width	Depth	Weight
0.6m Section	600mm	938mm	150mm	24kg
1.2m Section	1200mm	938mm	150mm	39kg
2.4m Section	2400mm	938mm	150mm	69kg

WARNING!

ENSURE THAT YOUR CONVEYOR IS CORRECTLY AND SAFELY LIFTED AT ALL TIMES. ENSURE THAT NOBODY IS UNDERNEATH THE CONVEYOR WHEN IT IS BEING LIFTED

6. ASSEMBLY

6.1 ASSEMBLY PROCEDURE

Your conveyor has been delivered to you on pallets. (Unless supplied ready assembled)

After opening the pallet you will have all the parts required to complete your conveyor assembly.

Before you start.....read through instructions carefully and check that all the items listed on your Parts & Packing list have been supplied. If any items are missing, contact your supplier immediately prior to assembly.

You will need assistance.....you will find that assistance of at least two other people, and appropriate mechanical handling equipment, will speed the job and make assembly easier and safer

Selecting your site…….choose an area that is firm, level, and capable of supporting the weight of the conveyor and product to be conveyed on the belt. In addition the base should be suitable to facilitate secure anchoring of the conveyor feet.

You will require unrestricted access to all edges of the conveyor.

IMPORTANT NOTE!

- **When assembling an Easibelt Conveyor with a vulcanised endless belt joint it is important to build the conveyor inside the belt.**
- **This must begin at the very first step of assembling the conveyor.**
- **The sections will need to be built upside down (as illustrated in the assembly drawings without a belt on).**
- **Ensure that the belt is placed onto a clean surface with the conveyor pans assembled inside of the endless belt.**
- **It will also help the installation if the return rollers are fitted as the conveyor pans are assembled together rather than when the conveyor is fully assembled.**

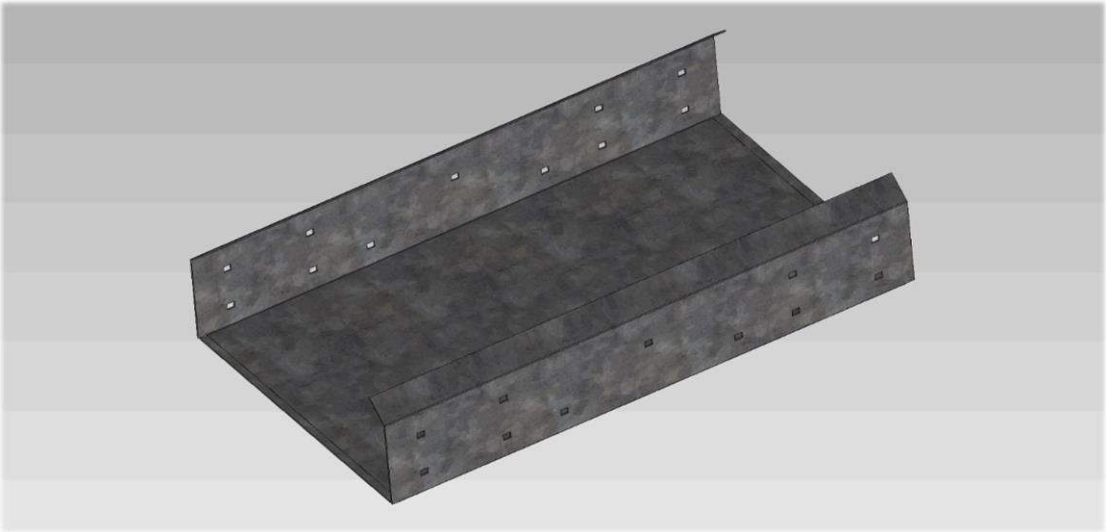
6.2 ASSEMBLY INSTRUCTIONS

WARNING!

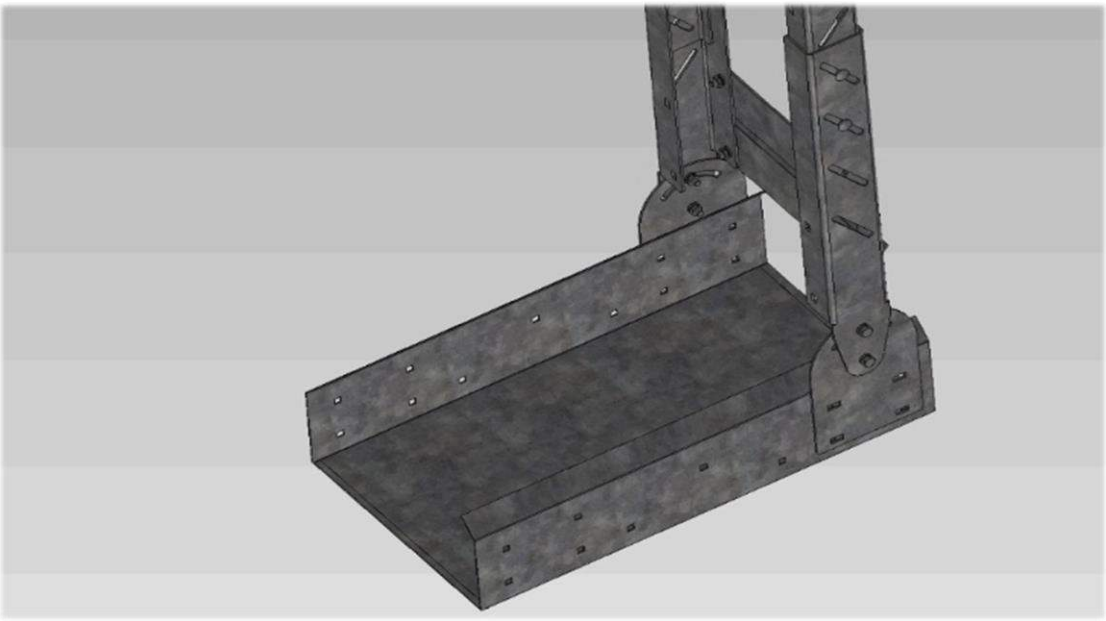
Ensure that the conveyor is correctly supported throughout the entire assembly procedure

When assembling an Easibelt conveyor with a clip belt joint use the following instructions:-

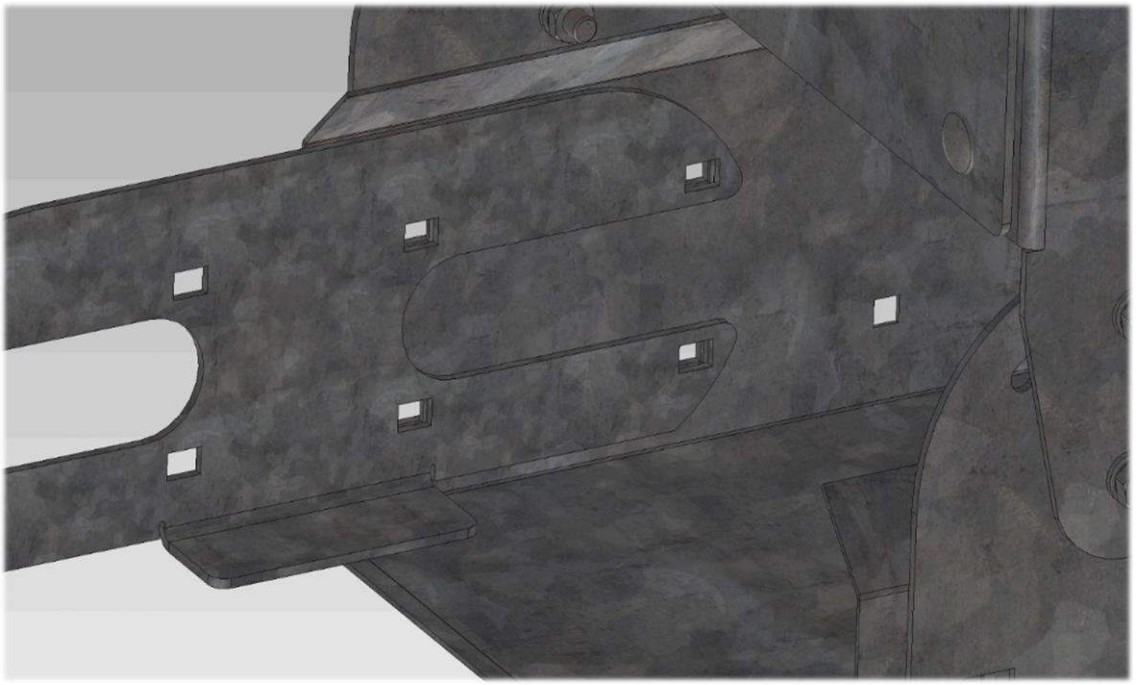
1. To assemble the Easibelt conveyor it is often easier to be carried out upside down by placing the first pan on the floor as shown



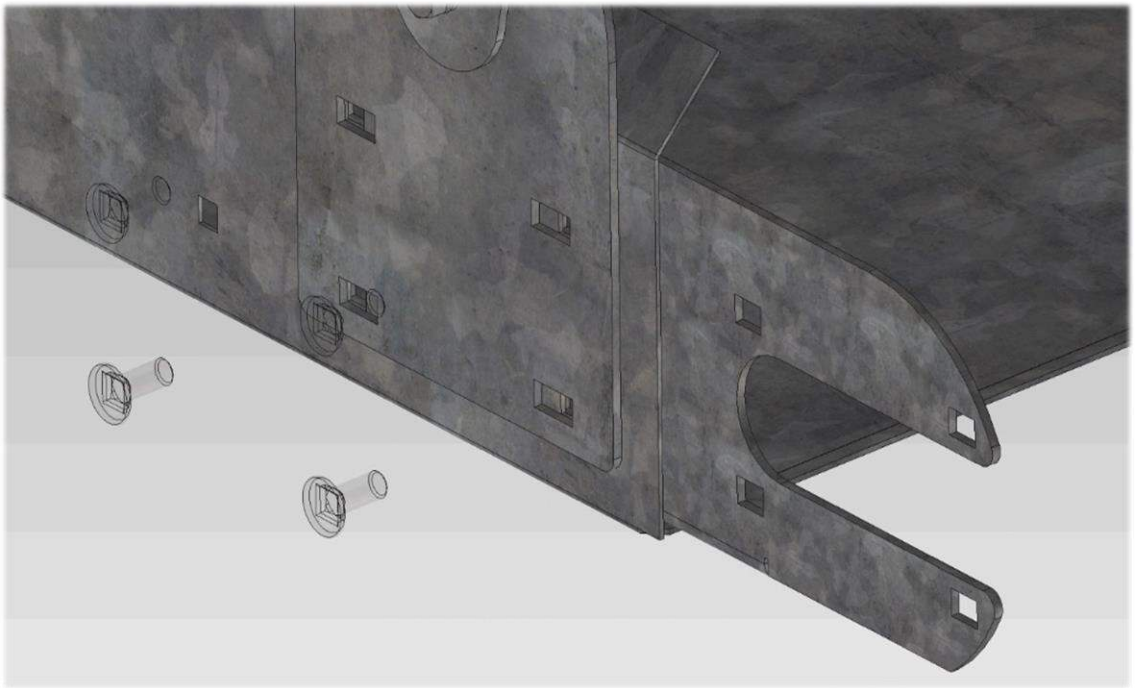
2. Position the pre-assembled stands on the outside of conveyor pan



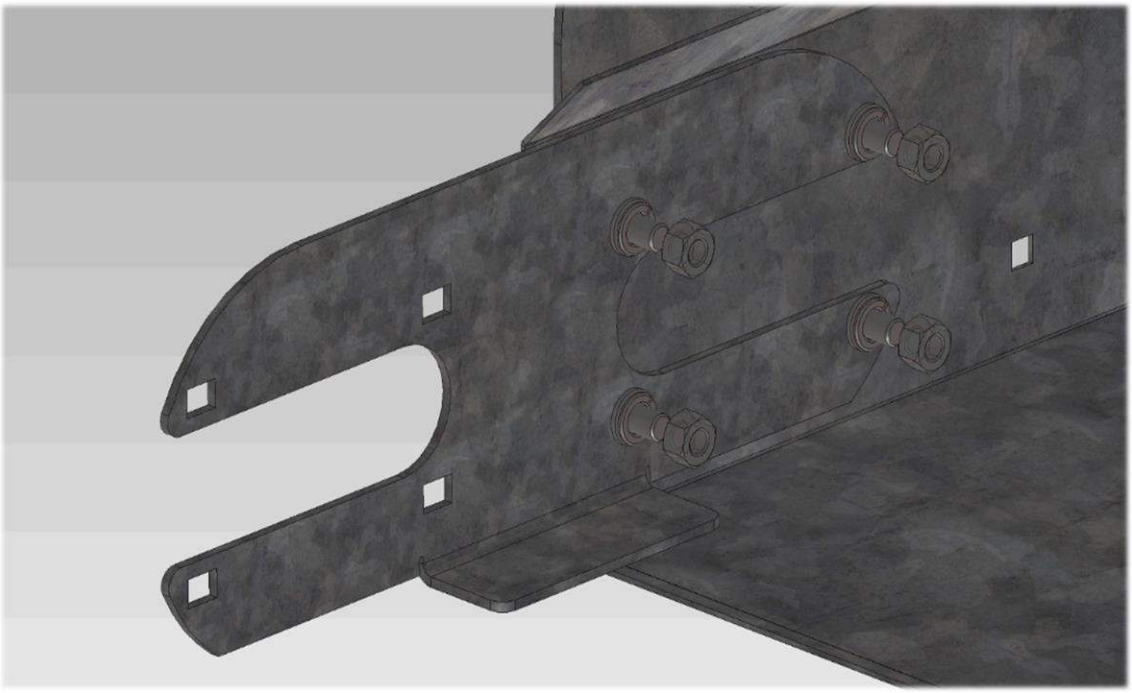
3. Position the jointing plates on the inside of conveyor pan as shown.



4. Fit four M8 Square head bolts through the leg brackets and jointing plates .....

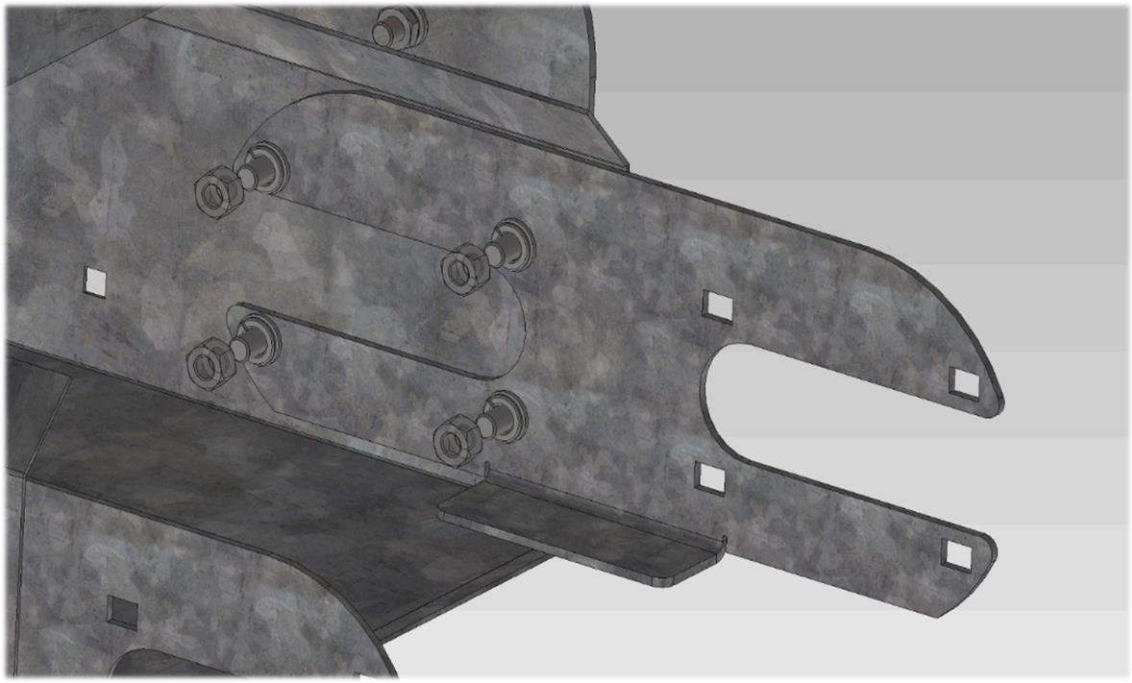


5. …… and secure with M8 nuts, flat and spring washers as shown.



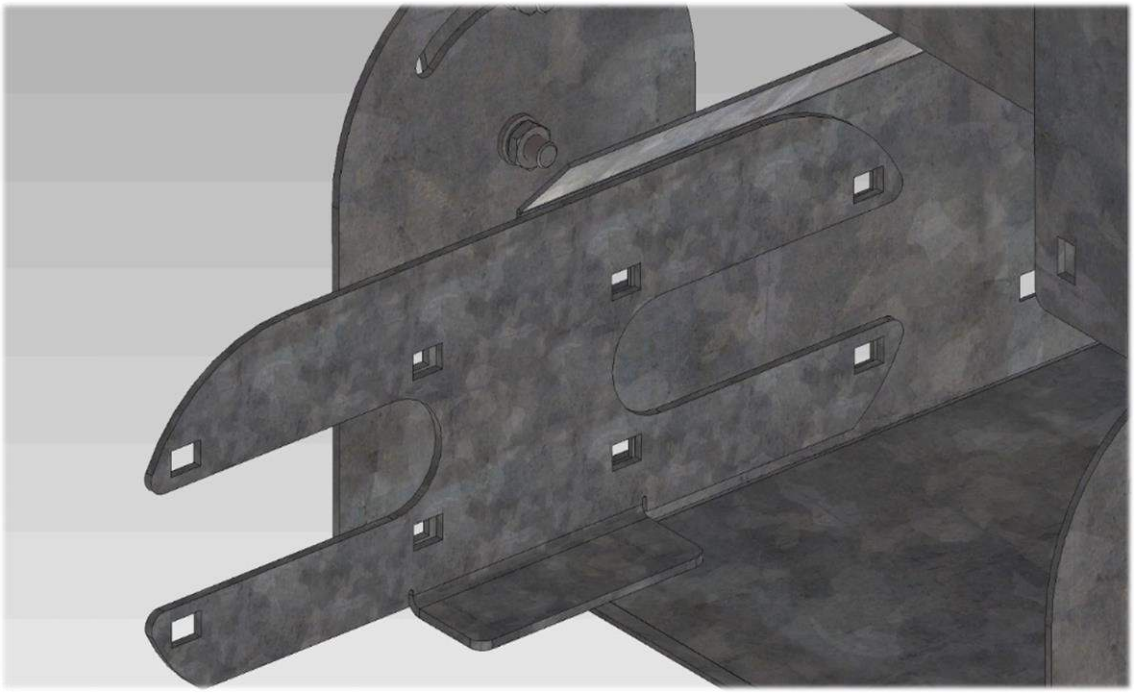
6. Position the jointing plate on the other inside of conveyor pan ……

7. …..and secure with M8 Square head bolts, flat and spring washers and nuts as on the opposite side.



8. Position the second leg at the other end of the pan.

9. Fit another jointing plate on the inside of the leg position straddling the joint as shown….



10. Fit four more M8 square head bolts…

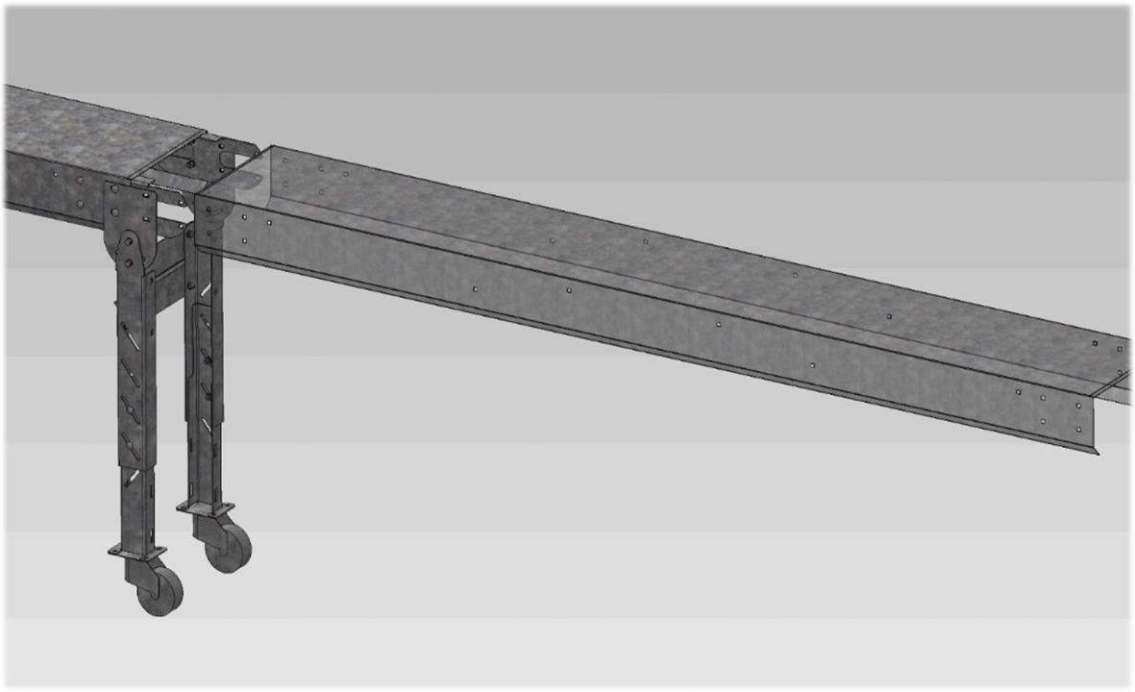
11. …. and secure with nuts, flat and spring washers as shown.

12. Now turn the assembled and onto its upright position and continue to assemble the conveyor one pan at a time. It is important to support the end of the pan whilst the conveyor is been secured at the joint.

13. Secure with jointing plates as previously, using four M8 Square head bolts with flat and spring washers and secure with nuts.

14. Ensure that the conveyor is assembled level and that all bolt fixings are secure. Continue adding conveyor sections ensuring all jointing plates are straddling the joints on the inside of the pan and the legs are straddling the joint on the outside of the conveyor pans.

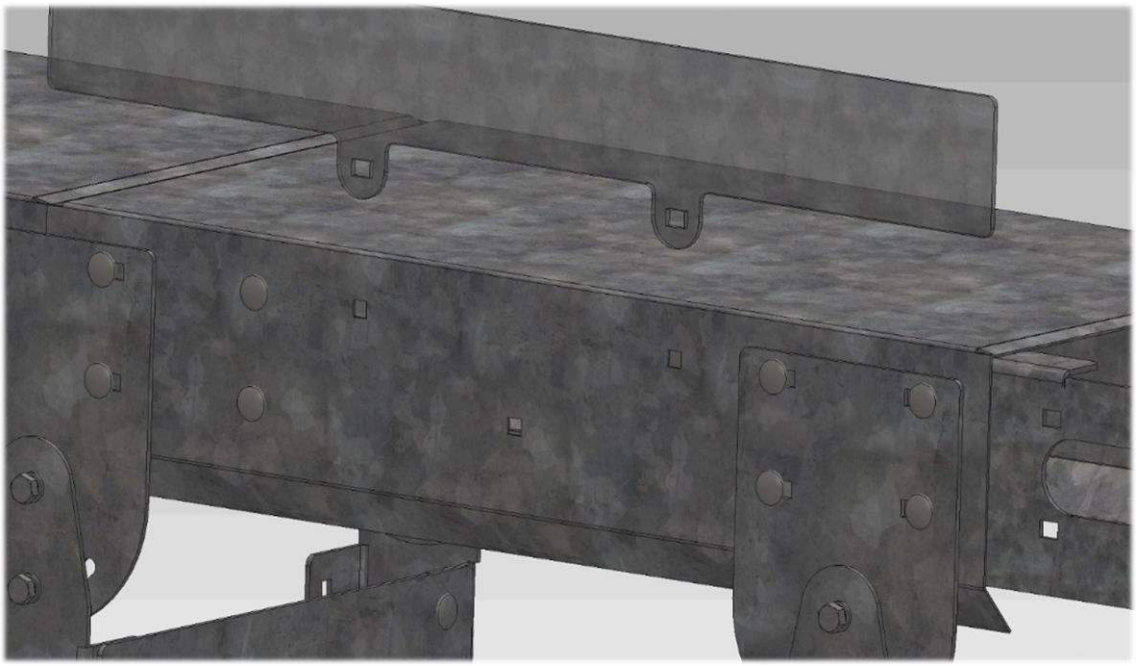
15. Add conveyor sections as required remembering to support the end of the pan whilst the conveyor is been secured at the joint.



16. Continue adding pans and legs until the desired length of conveyor is produced.

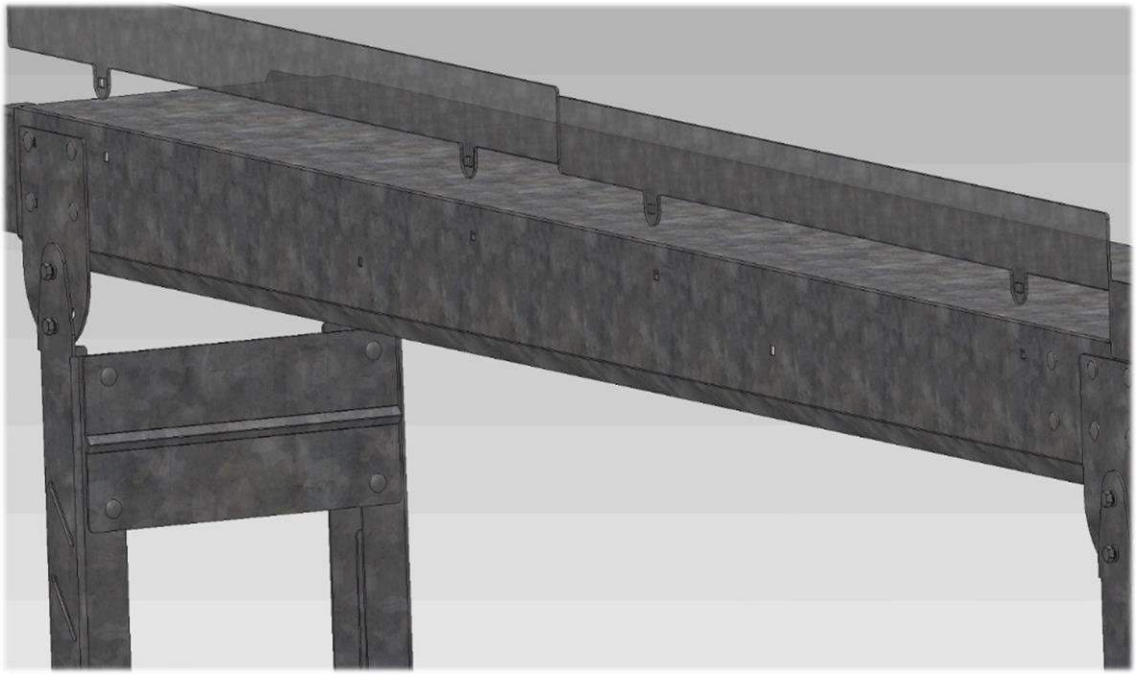
17. Once all sections have been assembled, fit two jointing brackets protruding from each end of the conveyor in readiness for the drive and idler drums.

18. If side guides are required they can be fitted at this stage …

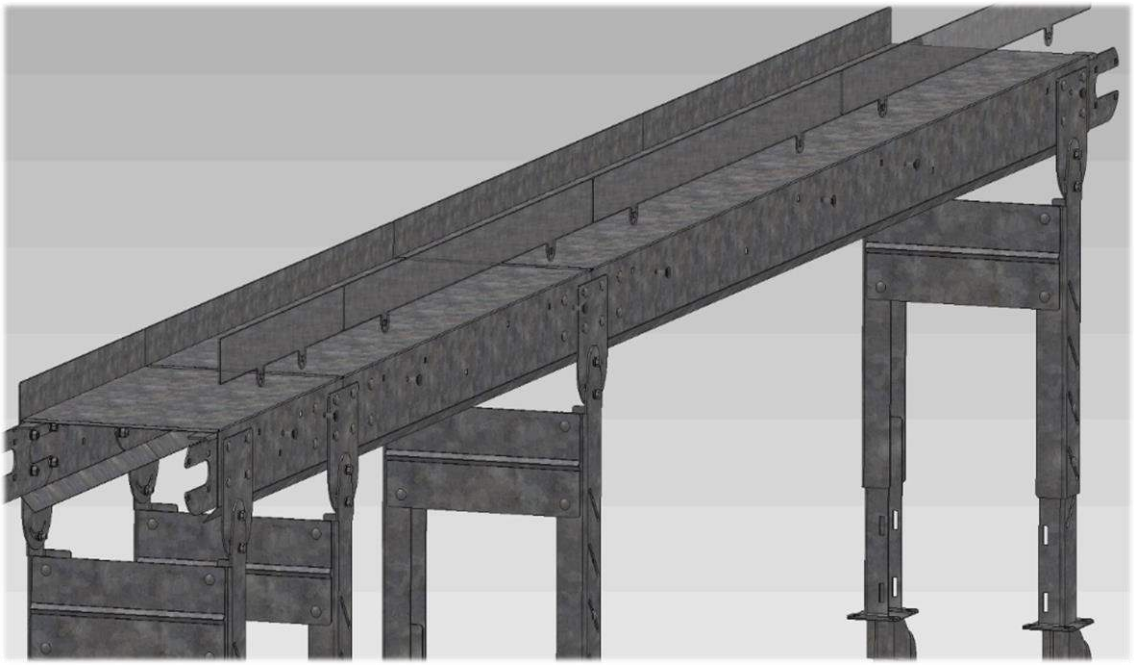


19. … and secured using Square head bolts with flat and spring washers and secured with M8 nuts as shown.

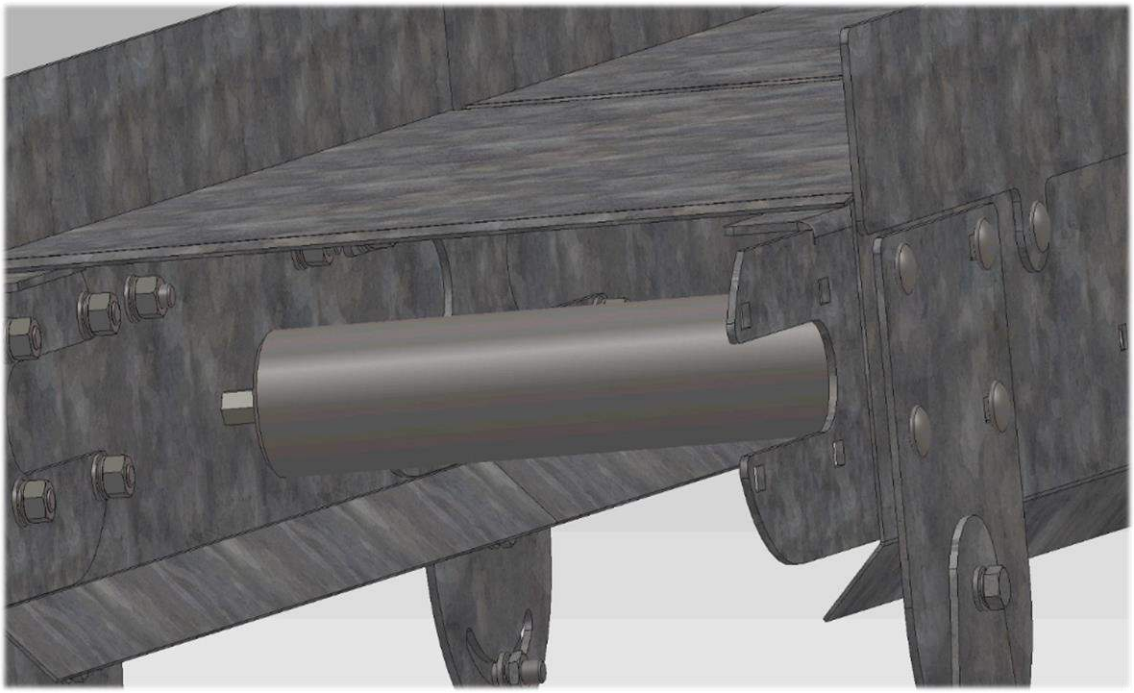
20. Side guides are supplied in two sizes, 600mm and 1200mm long as shown.



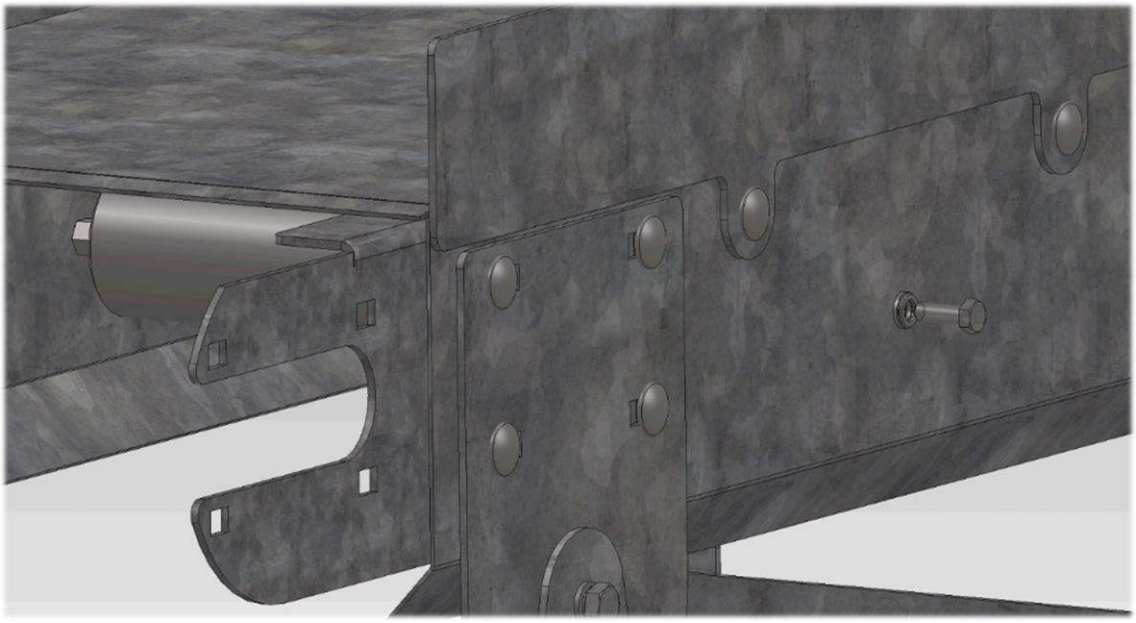
21. Continue fitting side guides to both sides of the conveyor as required and securing as necessary.



22. The return rollers should be fitted at this stage ….



23. …and secured with standard M8 bolts complete with flat and spring washers and nuts.



24. Fit the remaining return rollers throughout the whole length of the conveyor…..

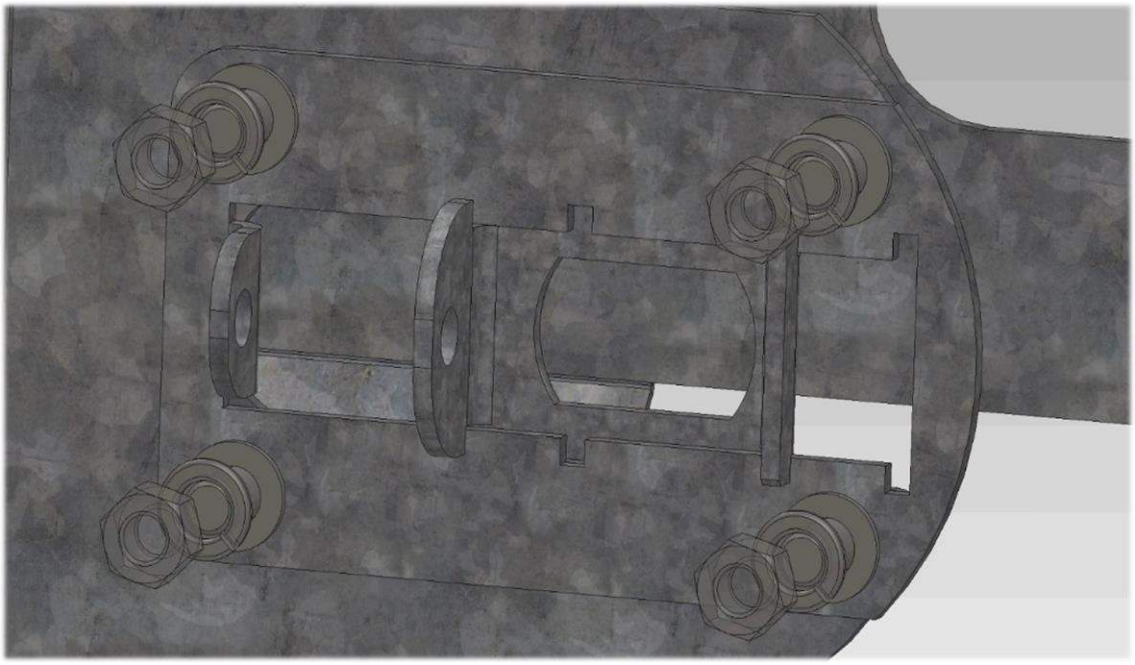
25. …and bolt and secure as previously.

26. The first tensioning bracket should be fitted ready for fitting the idler drum.
(Ensure that the drive drum is fitted on the discharge end of the conveyor)

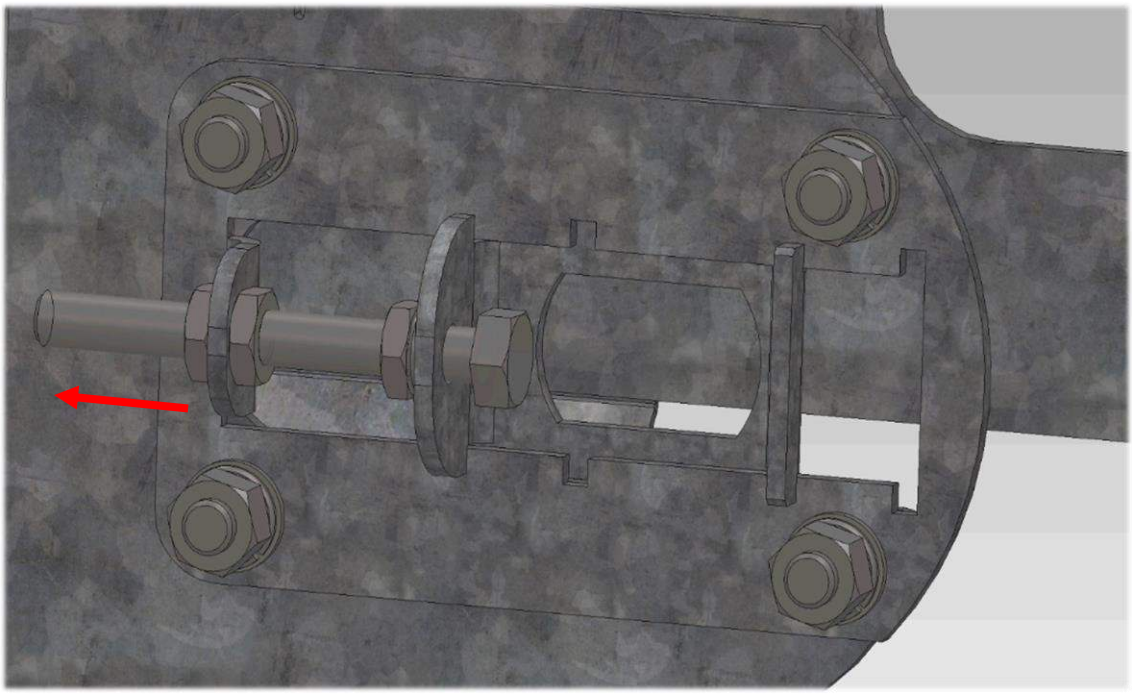
27. Position the adjuster plate from the other side of the bracket.

28. Fix using four M8 Square head bolts from the inside of the conveyor pointing outwards…

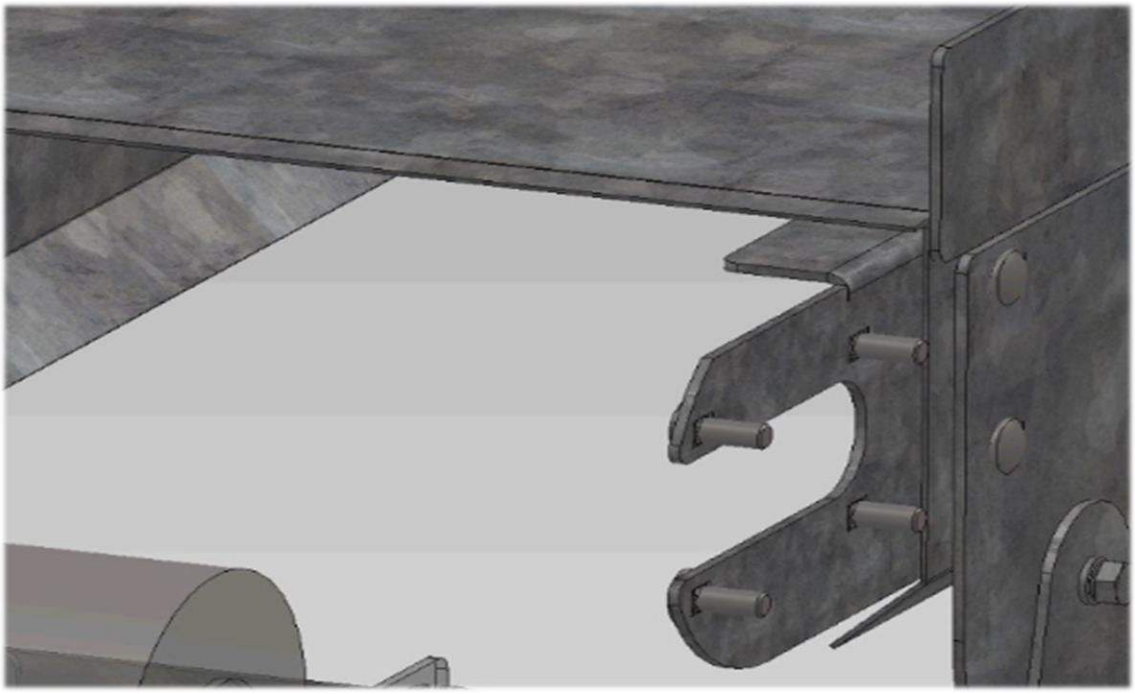
29. … and secure with M8 nuts & flat and spring washers from the outside.



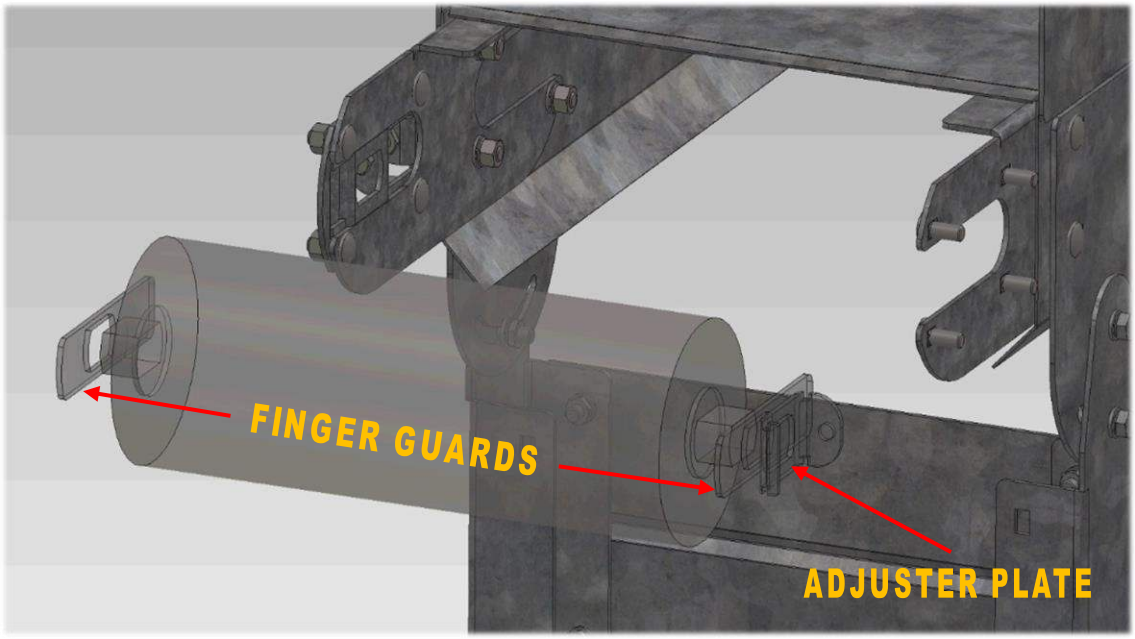
30. The tracking adjusting bolt will need to be positioned pointing towards the centre of the conveyor. Fit the nuts and washers loosely so that they can be adjusted by hand when positioning drums prior to fitting of belt.



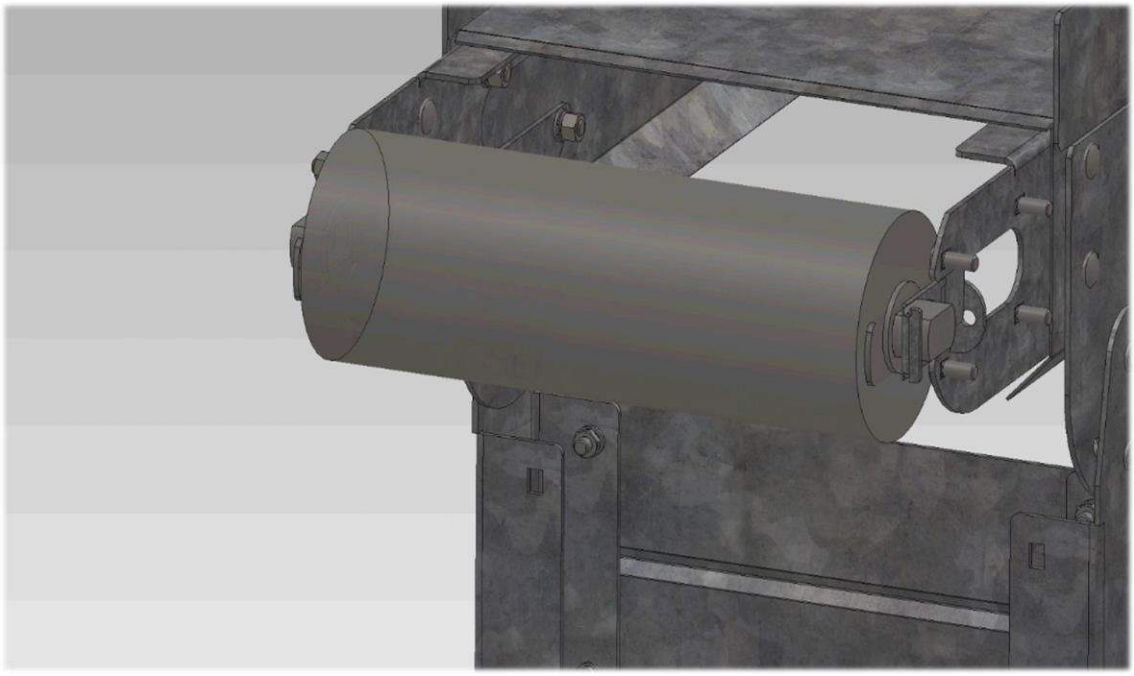
31. On the opposite side just slide the four M8 bolts from the inside of the conveyor pointing outwards …



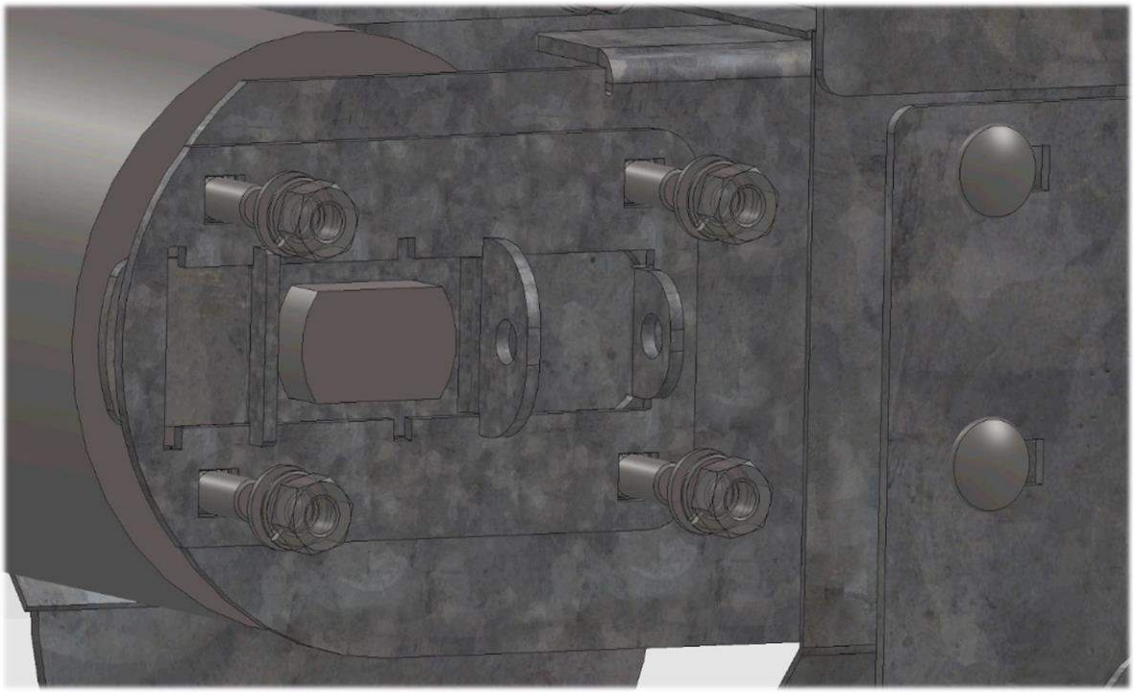
32. Prior to fitting the conveyor drums, insert the finger guards over the ends of the drum shaft as shown.
    Next slide the Adjuster Plate over the end of the right hand shaft.



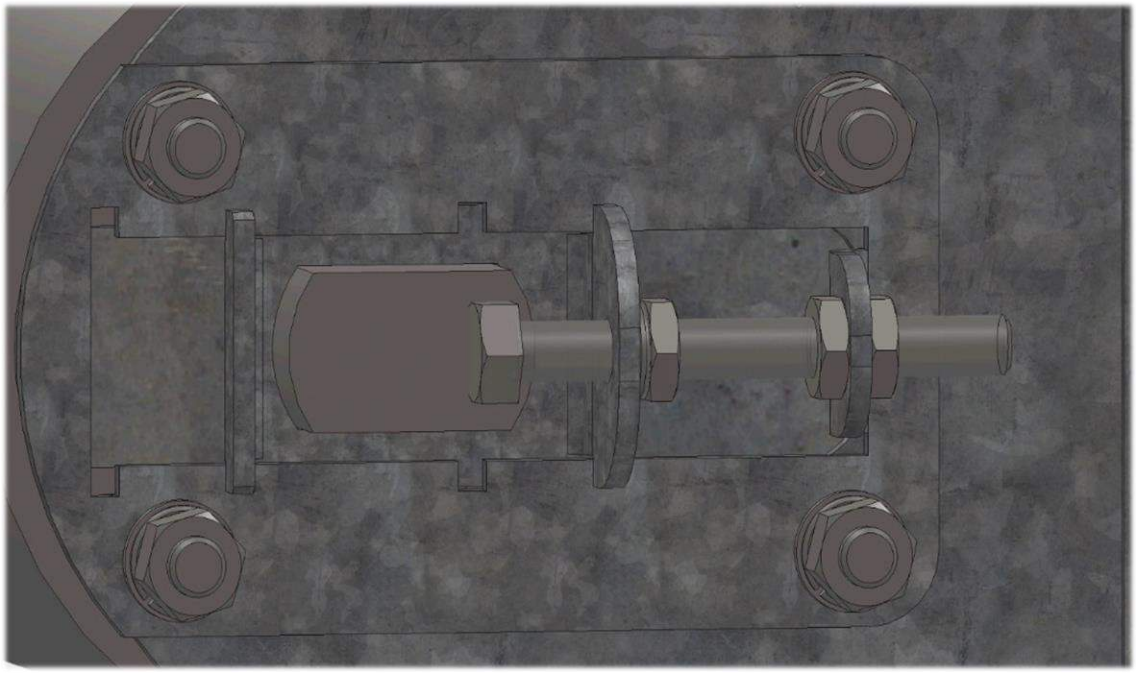
33. Position the idler drum into position as required



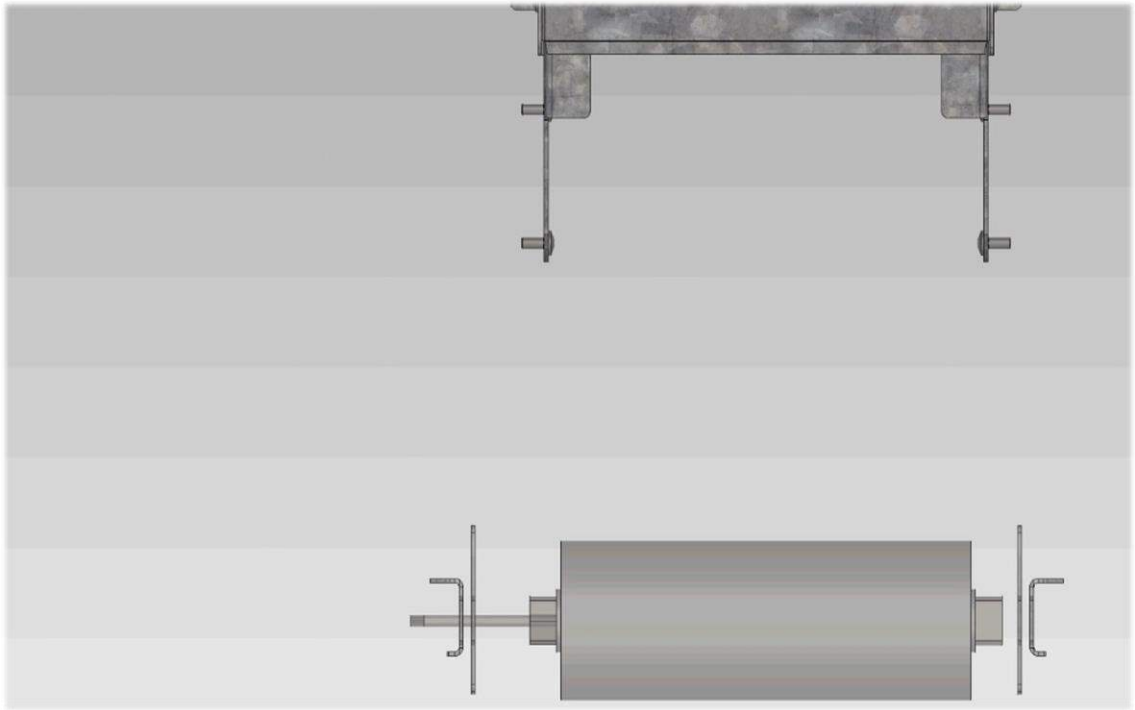
34. The other tensioning bracket should be secured using M8 nuts and flat and spring washers.



35. Again, position the tracking adjusting bolt pointing towards the centre of the conveyor. Fit the nuts and washers loosely so that they can be adjusted by hand when positioning drums prior to fitting of belt.



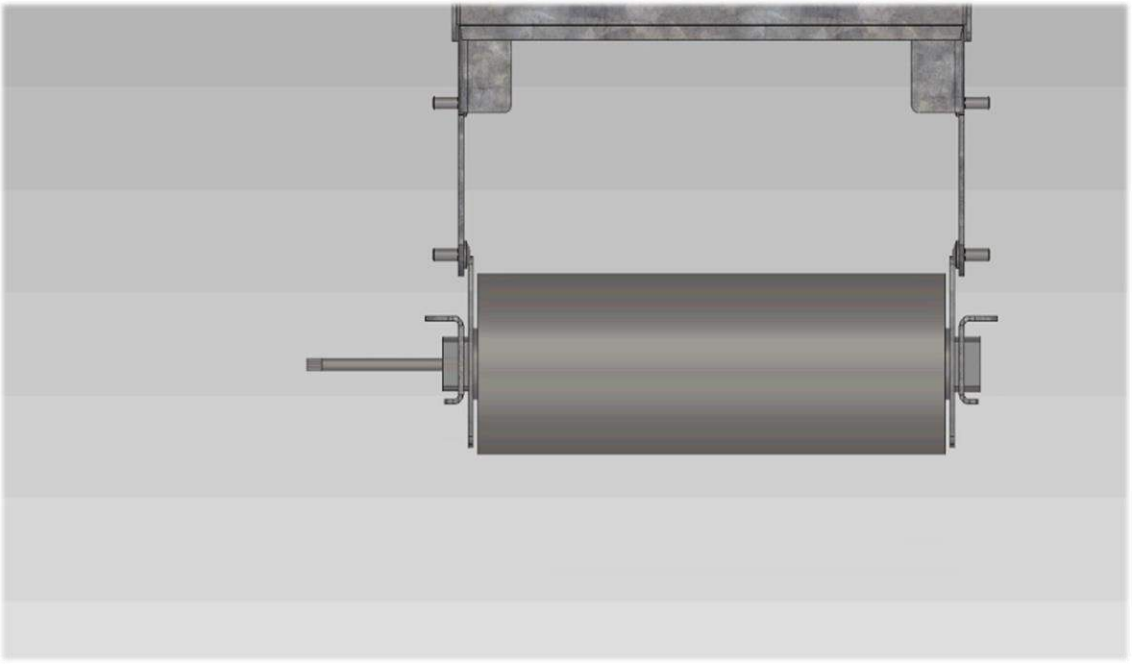
36. When fitting the power drive drum ensure that the cable is threaded through the adjusting bracket …



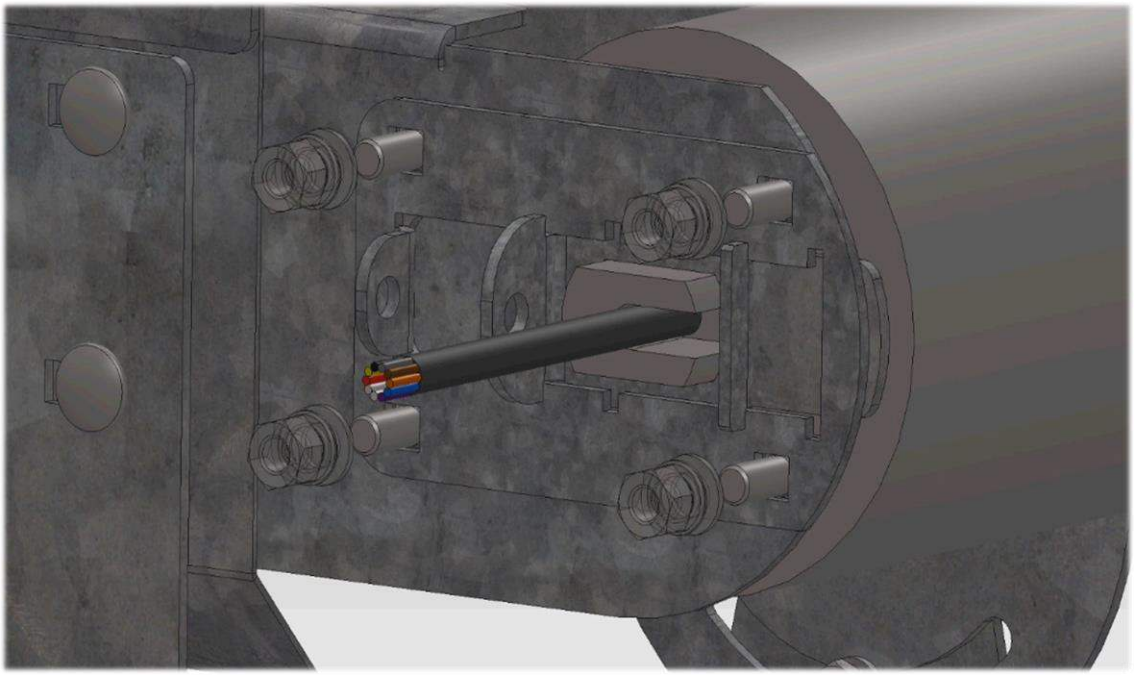
NOTE!

SEE SPECIFIC DRIVE DRUM INSTALLATION AND WIRING DIAGRAMS ON PAGES 37 - 40

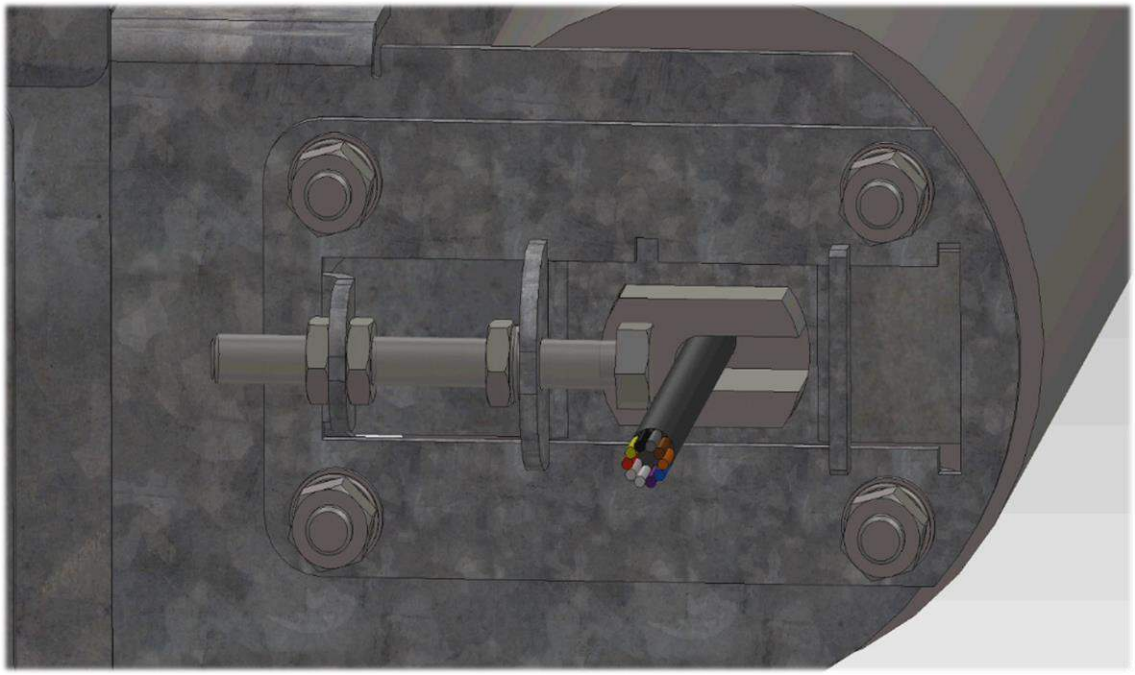
37. …as the drum is assembled into position



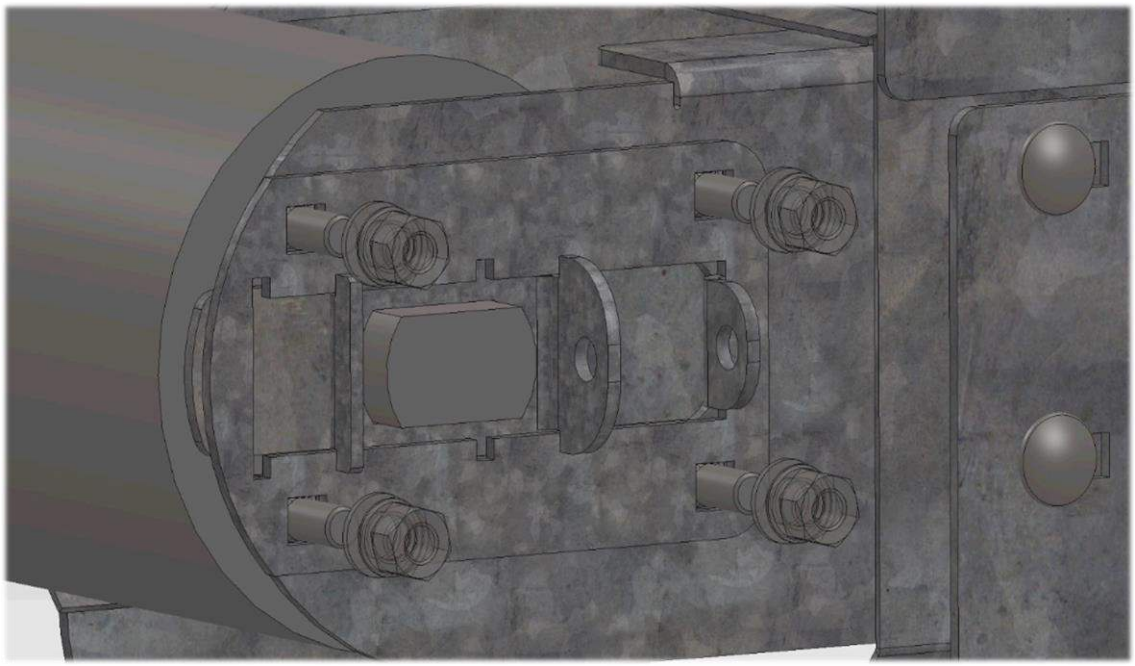
38. Secure the tensioning brackets using M8 nuts and flat and spring washers as on the opposite end.



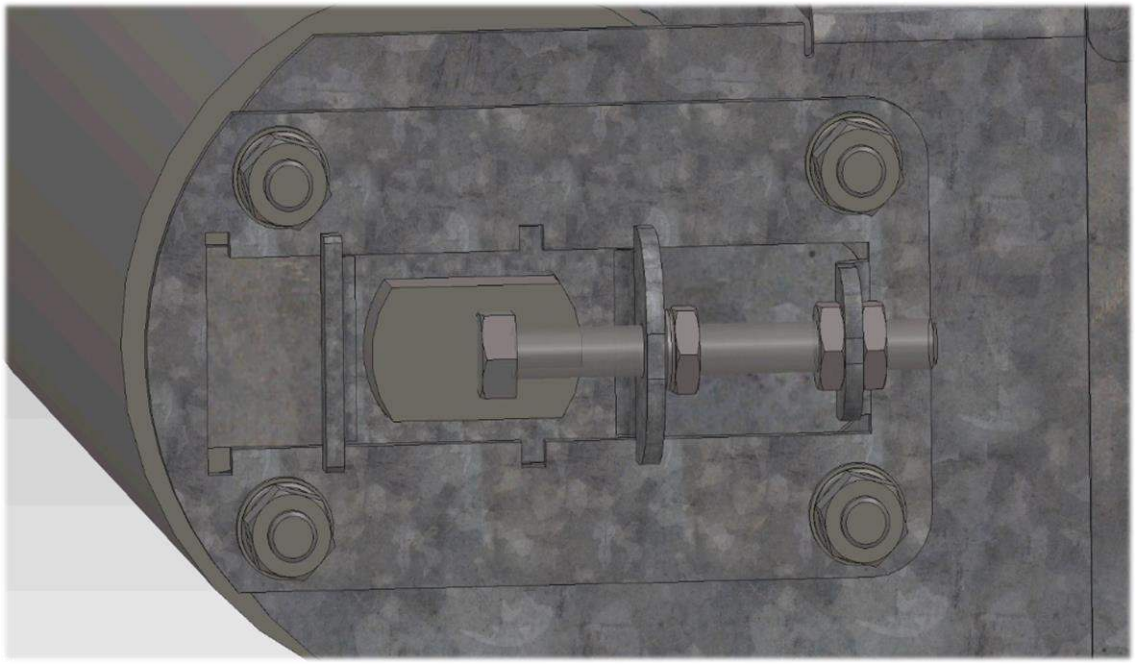
39. Again, position the tracking adjusting bolt pointing towards the centre of the conveyor. Fit the nuts and washers loosely so that they can be adjusted by hand when positioning drums prior to fitting of belt.



40. The other tensioning bracket should be secured using M8 nuts and flat and spring washers.

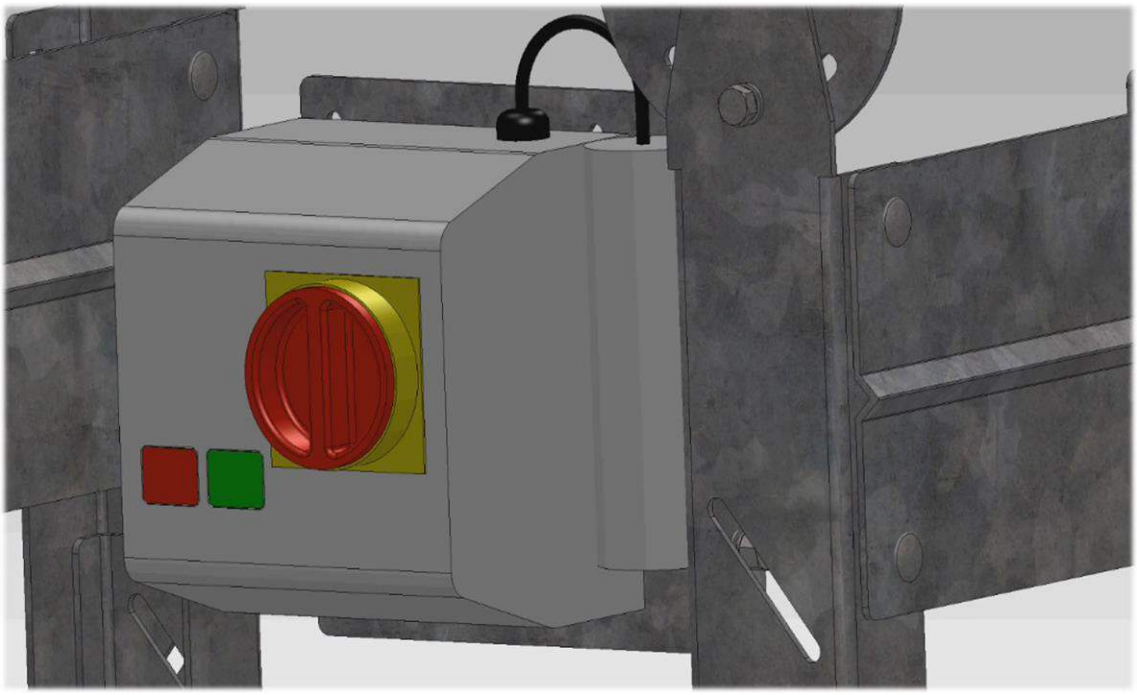


41. Position the final tracking adjusting bolt pointing towards the centre of the conveyor. Again, fit the nuts and washers loosely so that they can be adjusted by hand when positioning drums prior to fitting of belt.



42. Attach the motor starter mounting bracket to the support leg underneath the power drive drum and secure with M8 bolts, washers & nuts.

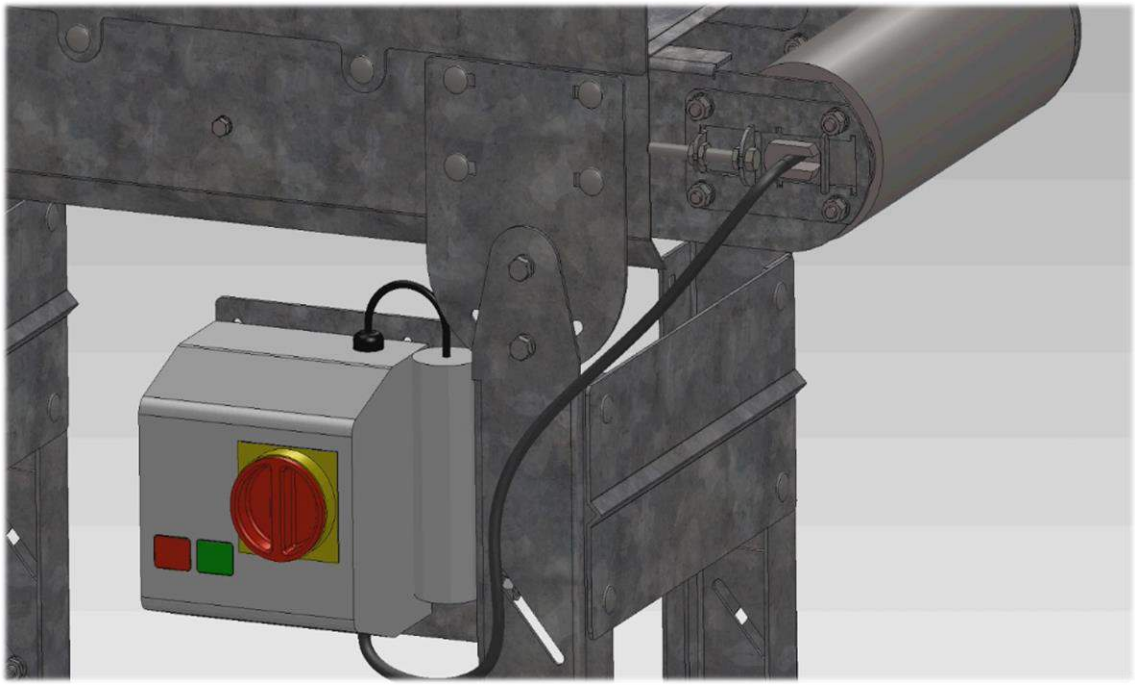
43. Secure your selected starter and electrical equipment as required



WARNING!

ALL ELECTRICAL WORK MUST BE CARRIED OUT BY A QUALIFIED ELECTRICIAN AND SHALL COMPLY WITH RELEVANT STANDARDS AND LEGISLATION
PLEASE REFER TO WIRING DIAGRAM ON PAGES 38-40 PRIOR TO COMMENCING ANY ELECTRICAL INSTALLATION

44. Ensure that all electrical wiring is carried out by a fully qualified electrician. Wire in the motor power lead into the starter and secure any loose leads with cable ties as shown.



45. Prior to joining the belt, ensure both drums at either end are fully adjusted towards the centre of the conveyor giving as much belt as required to secure the belt joint.

46. Now a belt with a clip joint can be fitted ensuring that the belt is the correct way up on the top side of conveyor. Ensure that it is threaded over the return rollers on the underside and wrapped around the conveyor drums and secure the clip joint on the top surface of the conveyor.

47. Once the joint is secure, adjust each conveyor drum at either end evenly using the outside adjusting studs to align the belt to the centre of the drum. Ensure that the belt is positioned in the centre of the drum prior to running the belt in its forward direction.

48. Now the belt tension has been taken up, the conveyor can now be switched on providing that it has been wired safely by a qualified electrician. Now make any final adjustments to the belt tracking to ensure that the belt runs centrally down the conveyor whilst it is running.

7. EASIBELT ROUTINE MAINTENANCE

WARNING!
ISOLATE CONVEYOR BEFORE COMMENCING MAINTENANCE

ROUTINE MAINTENANCE CHECKS

Routine maintenance checks are very important in maintaining the full useful working life of your Easibelt conveyor. A regular maintenance program paying due attention to all the components itemised in this Routine Maintenance section will reduce the likelihood of break-down and costly downtime. Frequency of checks will depend on conveyor usage i.e. material being handled, hours worked per day etc. Checks are recommended at regular intervals depending on the amount of working hours that the conveyor is being used for.

A main feature in extending the life of your conveyor is thorough cleaning at regular intervals to prevent material build-up particularly around the drive and idler drums. (good house-keeping is essential).

THERE ARE REGULAR MAINTENANCE CHECKS THAT MUST BE CARRIED OUT: -

1. **EVERY WEEK (or 60 hours)**
2. **EVERY MONTH (or 250 hours)**
3. **EVERY 3 MONTHS (or 750 hours)**
4. **ANNUALLY (or 3000 hours)**

WARNING!
DOWN TIME COSTS MONEY,
LOOK AFTER YOUR EASIBELT CONVEYOR!

ROUTINE MAINTENANCE CHECK LIST

7.1 MATERIAL HANDLING

It is very important to ensure that your conveyor is operating within its capacity. If you are in doubt as to the capacity, please consult your conveyor supplier.

7.2 PVC BELT

PVC belt and belt joints are classed as 'wear' items and not covered under the manufacturer's warranty. Regular inspection of the belt, joints and tracking will help prevent any unnecessary damage to these items and to the conveyor framework. Particular attention will need to be given to metal clip joints (where supplied) as wear to the underside of the joint will not readily be noticeable from a surface visual inspection.

7.3 ROLLERS

Return rollers will need to be inspected regularly for free rotation and any excessive wear. These have sealed for life bearings and will need to be kept free from any material build up. Do not use thin spray lubricants (i.e. WD-40) as these will wash out the pre-greased bearings. If external lubrication is needed, this should be done with a spray lubricant grease (avoid any contact with the PVC belt).

7.4 DRIVE DRUM

The Head Unit should be checked as per the maintenance schedule and visually assessed to ensure that the drum is functioning correctly. The Head Drum and its mountings should be secure and in alignment with the conveyor, and the motor mounting brackets secure

7.5 TAIL IDLER DRUM

The Tail Idler Drum should be checked as per the maintenance schedule and visually assessed to ensure that it is functioning correctly and that the drum is clean with no excessive build-up of material around the drum and that it is running correctly. Ensure that the adjuster plates and associated fixings each side are clean and operational and are tightly secured.

7.6 MOTOR & ELECTRICS

Carry out a regular visual check to ensure there are no obvious signs of wear or damage to the motor and supply cables. Any wear or damage in these areas should be reported immediately to a competent electrician to carry out further investigation and any necessary repair work.

7.7 BELT TRACKING

Belt tracking should be visually checked at both ends of the conveyor to ensure that the belt is running in the centre of the drums and not running to one side more than the other. You may need to remove any objects that obstruct your visual inspection. If the belt is running out of alignment follow the belt tracking procedure as set out in Section 6.12

7.8 BELT TENSIONING

To check the belt tension on you conveyor, first make sure that there is no load on the belt. Ensure that you are situated in a safe position prior to starting the conveyor to inspect the belt running and that you are able to visually see the head drive drum on start-up of the conveyor. On start-up, first check that there is no belt slippage on the drum. If the belt is not slipping, then repeat this check with the belt running under its normal working load. Should you experience any slipping of the belt at the drive drum, then increase the tension at the tail drum end by following the tracking and tensioning procedure as set out in Section 6.12

7.9 SIDE GUIDES

Side Guides need to be inspected periodically as per the maintenance schedule to ensure that they are fixed securely and that they are not damaged.

7.10 SUPPORT STANDS

All support stands should be checked periodically that all fixings are tight and secure. Inspect all supports for any damage. Replace any damaged parts as necessary. Ensure that nothing detrimental has been added to the support structure causing extra weight loadings since the conveyor was originally specified.

7.11 EMERGENCY GRAB WIRES & STOP STATIONS

All Emergency Stop devices must be regularly checked as per the Maintenance Schedule to ensure they are functioning correctly. (i.e. activate and ensure the conveyor stops). All stop units and cabling should be checked visually for damage and that all fixings are secure. Any maintenance work required should be carried out by a qualified electrician.

7.12 CONVEYOR CLEAN

Periodic washing and cleaning of your conveyor will be necessary to maintain its efficient operation. Ideally the belt tension should be released allowing the belt to be raised to gain access to the inside of the conveyor frame. Particular attention and thorough washing will be required around the head and tail drum areas.

7.13 DOCUMENTATION

All maintenance should be documented accordingly in the separate Service Schedule.(available on request)

EASIBELT ROUTINE MAINTENANCE SCHEDULE					
Item	Maintenance check	Frequency			
		Weekly	Monthly	3 Monthly	Annual
		or 60 hours	or 250 hours	or 750 hours	or 3000 hours
7.1	Material Handling			✓	✓
7.2	PVC Belt	✓	✓	✓	✓
7.3	Rollers		✓	✓	✓
7.4	Head Drive Drum			✓	✓
7.5	Tail Idler Drum			✓	✓
7.6	Motor & Electrics	✓	✓	✓	✓
7.7	Belt Tracking	✓	✓	✓	✓
7.8	Belt Tensioning			✓	✓
7.9	Side Guides			✓	✓
7.10	Support Stands				✓
7.11	Emergency Stop Controls			✓	✓
7.12	Conveyor Cleaning				✓
7.13	Documentation		✓	✓	✓

Contact your supplier for replacement parts.

ROUTINE MAINTENANCE CONTRACTS

Service contracts are available. Contact your supplier for details

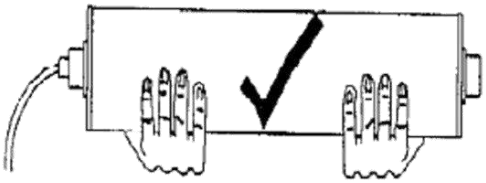
WARRANTY

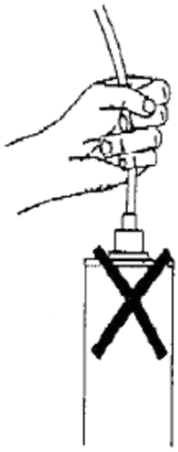
See Warranty on Page 40. It is important that the Maintenance Schedule is adhered to in order to validate the manufacturer's warranty.

8. APPENDIX - MOTORISED DRUM INSTALLATION

8.1 Handling

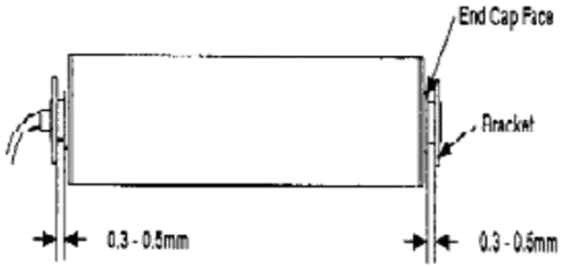
Handle with care. DO NOT lift the Motorized Drum by the cable.





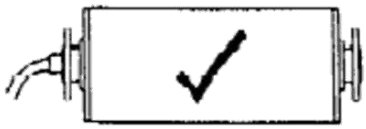
8.2 Mounting

Allow for a small gap (max 0.5 mm) between the end-caps slots face and the brackets as shown in figure.



8.3 Inclination

The Motorized Drum should normally be mounted horizontally. Any deviation from this, needs technical advice from your supplier.



8.4 Belt tension

The belt should be tensioned just sufficiently to pull the belt and load without slip. Excessive belt tension can cause damage to the Motorized pulley.

8.5 Heat

The Motorized Drum MUST NOT be run without a belt or other form of approved heat transfer system. Heat generated by the Motorized Pulley must be dissipated, otherwise irreversible damage may occur to the transmission system.

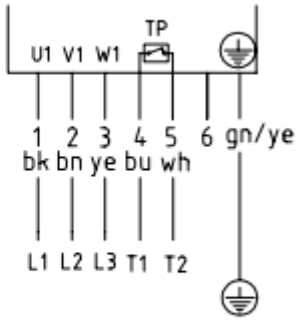
9. APPENDIX - ELECTRICAL WIRING DIAGRAMS

9.1 CONNECTION DIAGRAMS FOR RULMECA DRUM MOTORS

3 phase, single voltage

(Cable at 6 leads, coloured or numbered; screened cable at 7 leads, numbered)

3-Ph motor
single voltage
with TP &
6 leads



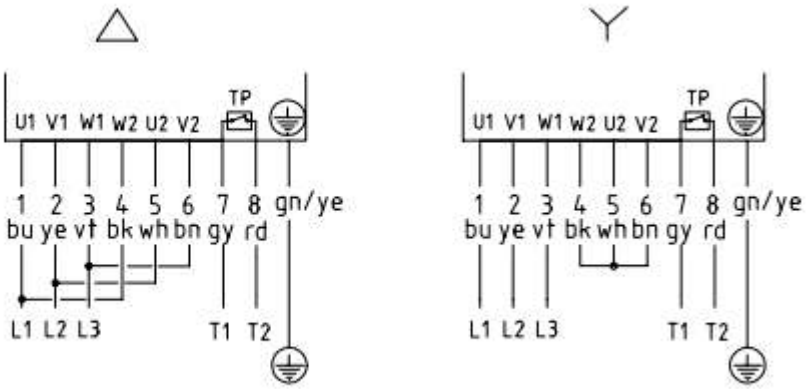
Lead 6 not used

Color code
gn - green
ye - yellow
bu - blue
bn - brown
vt - violette
bk - black
wh - white
rd - red
gy - grey

3 phase, dual voltage

(Cable at 9 leads, coloured or numbered)
(Delta -Star possible connections)

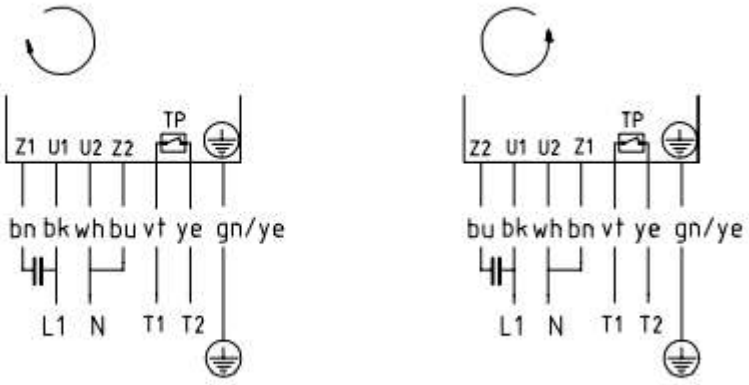
3-Ph motor
dual voltage
with TP



- The screened cables (for use with Frequency converter) get black leads numbered, as per the above diagrams, apart the yellow/green ground lead.
- For all 3 phase motors, to reverse rotation interchange one pair of supply leads.
- Thermal protection contact fitted inside the motor windings (TP – T1 & T2)
- (Normally Closed thermal contact, opening at rising temperature, dangerous for the windings. Automatically closing at temperature coming down. To be put in series to the emergency stop button).

SINGLE PHASE

1-Ph motor
with TP



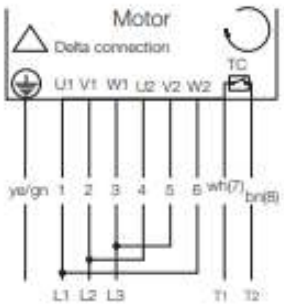
- Rotation direction is determined from the cable side view To reverse rotation, interchange BROWN with BLUE leads
- Thermal protection contact fitted inside the motor windings (TP – T1 & T2)
- (Normally Closed thermal contact, opening at rising temperature, dangerous for the windings. Automatically closing at temperature coming down. To be put in series to the emergency stop button).

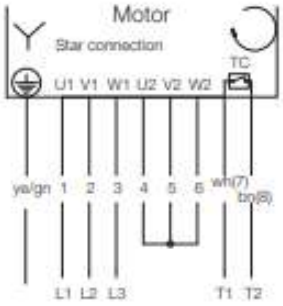
IF IN DOUBT ASK

Council of European Directives: The products in the publication conform to relevant EEC Directives and EN Standards. Installation and use of such products must be carried out by competent, properly trained personnel, complying with any Instructions supplied by Your Supplier. Liability for improper incorporation, assembly, use, processing, storing or handling of goods remains the sole responsibility of the individual or company carrying out such work. This publication is for information purposes only. Whilst every care has been taken in the preparation of this leaflet, no liability is accepted for any consequence of its use. No license to use any patent should be assumed. All dimensions are approximate only and subject to change without notice, as are other technical features resulting from continual development and improvement.

9.2 CONNECTION DIAGRAMS FOR INTERROLL DRUM MOTORS

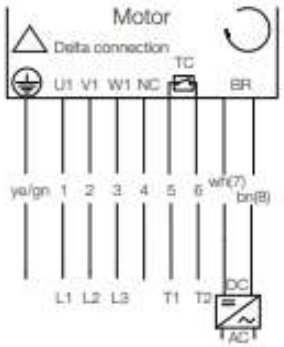
3-phase voltage delta/star connection

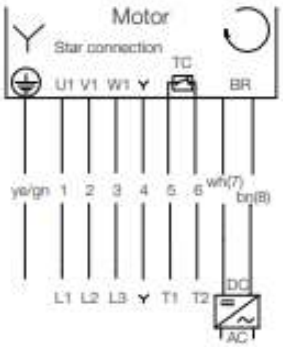




3-phase voltage delta or star connection brake option

NC = Not Connected

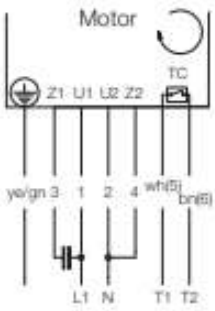


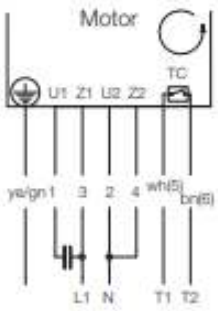


1-phase voltage

Main Winding = Auxiliary Winding

Ω1 = Ω2





Cable Connections

TC = Thermal controller
BR = Electromagnetic brake (option)
Leads for TC may be coloured white and brown

Color codes:
ye = yellow
bn = brown
gn = green
wh = white

IF IN DOUBT ASK

Council of European Directives: The products in the publication conform to relevant EEC Directives and EN Standards. Installation and use of such products must be carried out by competent, properly trained personnel, complying with any Instructions supplied by Your Supplier. Liability for improper incorporation, assembly, use, processing, storing or handling of goods remains the sole responsibility of the individual or company carrying out such work. This publication is for information purposes only. Whilst every care has been taken in the preparation of this leaflet, no liability is accepted for any consequence of its use. No license to use any patent should be assumed. All dimensions are approximate only and subject to change without notice, as are other technical features resulting from continual development and improvement.

WARRANTY

The manufacturer will correct, free of charge, any defects in material or workmanship for a period of 12 months, from date of purchase, subject to the terms and conditions stated below.

TERMS AND CONDITIONS OF WARRANTY

The manufacturer will repair or replace, free of charge, any mechanical or electrical components supplied in conjunction with any conveyors or other equipment carrying a warranty supplied either by the manufacturer or an appointed agent and located within the United Kingdom, or repair or replace any parts thereof which are shown to the satisfaction of the manufacturer to be defective due to faulty materials or workmanship within twelve months from the date of purchase, provided the faulty part(s) are returned, complete and carriage paid, either to the manufacturer or an appointed agent. Any parts removed will become the property of the manufacturer.

This warranty is valid subject to the operator providing proof to the conveyor supplier (if requested) that the recommended Maintenance schedule shown within the Easibelt Instruction Manual has been adhered to.

THIS WARRANTY SHALL NOT COVER ANY FAULT OR DEFECT CAUSED BY:

1. Incorrect installation or operation arising from failure to observe the instructions of the manufacturer or its agents e.g. inadequately rated power source or incorrect voltage or power cables.
2. Physical damage, however it was caused.
3. Repairs or alterations carried out by third parties other than the manufacturer or an authorized agent.

THE FOLLOWING ITEMS ARE EXCLUDED FROM THE WARRANTY:

1. Fair wear and tear
2. Rubber and PVC skirting

This warranty shall not apply to nor cover any other claims whatsoever. It will, in particular, (without limiting the generality of the foregoing), not cover any claims for conversion or modification or for the cost of repairs carried out by any third party without the prior consent of the manufacturer.

Before free service is given under this warranty the purchaser must provide to manufacturer's satisfaction, proof of date of purchase of the conveyor and quote the serial number(s). If replacement parts are fitted then the original period of warranty will not be extended.