

OPERATION & MAINTENANCE MANUAL



WARNING

This machine **must only** be used by personnel who have been properly instructed in all aspects of the machine's safe operation.

Operators **must** also wear the recommended personal protective clothing and have thoroughly read and understood this manual.

Serial Plates

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Below is a copy of the serial plate displayed on the back of the machine



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2 Overview

The Chain Conveyor is designed to provide is used for the transportation of material, from the designated machine to the required destination for packaging and shipment.

The Chain Conveyor must be used per the standard operating procedures set out in this manual. Any actions carried out which are not contained in this manual are not endorsed by Spida Machinery, and cannot be warranted.

All operators should read and then sign the register of this manual before operating the Chain Conveyor to ensure they are thoroughly familiar with the machine capabilities, limitations and to ensure correct operating procedures are adhered too.

Only those operators that have received training on the correct operation of the Chain Conveyor are deemed competent and qualifies to operate the machine.

The Chain Conveyor test procedures must be performed at installation and after any maintenance, adjustment, repair or modification of the machine. The test procedure is available on request.

The competent operator must also regularly perform the recommended maintenance procedures and checks detailed in this manual.

All electrical wiring must be set as to not allow their movement through any areas of adjacent machinery that could cause them to be damaged or severed.

This manual offers many safety tips, but its purpose is not to provide instruction in all the skills and techniques required to manufacture timber frames safety and efficiently.

Due to improvements in design and performance during production, in some cases there may be minor discrepancies between the actual machine and the illustrations and text in this manual.

3 Specifications

Table 1, Chain Conveyor Specifications

These vary between the standard 8m length and standard 24m length

Overall Width	2250 mm
Overall Height	540 mm
Overall Length	8250 – 24,250 mm
Working Width	Equal to width of widest framing structure being made
Weight	380 – 980 kg (Approximately halve for separate beams)
Operational Noise	20 dB

Specifications may change without notice

4 Installation

4.1 Handling & Transport

- Box all additional parts and secure with the machine
- Using a single fork truck, lift the machine package underneath using the forklift spaces provided
- Once on the truck, tightly strap the machine.
- Do **not** place any loads on top of the machine
- The machine should be kept free from road grime and rain, and should be covered at all times while being transported

The Chain Conveyor will be delivered in large component form and will require assembly on site by trained personnel. Due care and attention should be given whilst unpacking the components from their packaging materials. Any damage caused whilst in transit should be noted immediately and Spida Machinery informed. Refer to section 3 specifications for weights of individual components when selecting Manual Handling Equipment required, prior to positioning them on the selected site.

4.2 Installation

- It is advisable to forklift the machine package as close to the final assembly point as possible to reduce manual lifting
- The final operating position of the machine must be free from any rubbish or impediments
- There must be good lighting in the installation area to allow proper positioning of the machine
- The ground on which the machine rests must not vary by more than 30mm over a 12m x 2m area for the standard 8m length; up to 28m x 2m for the standard 24m length.
- Chain Conveyor should be leveled using adjustable feet. Once level, machine should be bolted to the floor through holes provided.
- Electrical commissioning to be to local standards and be performed by a qualified electrician

The site selected for the Chain Conveyor will depend on the ground. The ground chosen should be clean and free of water or possible flooding. The area on which the framework sits must be as even and horizontal as possible. This can be achieved by adjusting the height of the feet. There should be no twist to the framework once the feet have been adjusted to take the ground into account.

The final operating position of the machine should be free of all rubbish or impediments, with general access to all areas of the Chain Conveyor for the ease of loading and unloading material of varying sizes.

Check that all safety equipment is functioning properly.

5 Safe Operation of Machinery

This section is provided as a guide only, it is the responsibility of the employer to ensure compliance with the relevant Health and Safety Regulations applicable to them at the time.

5.1 Young Persons

No person under the age of 15 should be allowed to operate or assist with the operation of machinery.

5.2 Long Hair and Loose clothing

Any long hair or loose clothing must be fully contained to eliminate the risk of entanglement with machinery.

PROTECTIVE SAFETY CLOTHING AND EQUIPMENT MUST BE WORN; INCLUDING:

Eyewear

Hearing protection

Respirator or Dust mask

Protective Clothing

Safety footwear



5.3 Cleaning and Maintenance of Machinery

For safe and reliable use, machinery should be regularly cleaned and maintained. During cleaning and maintenance, the Chain Conveyor must be isolated from all sources of energy and locked out to prevent unexpected operation.

5.4 Training and Supervision of Chain Conveyor Operators

No person should be expected or allowed to operate the Chain Conveyor until they have been fully trained and authorised to do so. They must be familiar with:

- Actual and potential hazards and appropriate controls.
- Correct use and adjustment of guards.
- Emergency procedures.
- How the Chain Conveyor works.
- Checks to perform prior to starting.
- How to recognise potential faults.
- Location of controls and how to Stop and Start the Chain Conveyor.

5.5 Responsibilities of Chain Conveyor Operators

Operators should:

- Check the Chain Conveyor prior to use and during operation to ensure it is in sound operating order.
- Report immediately any defects noted to their supervisor.
- Use any, and all safety equipment provided.
- Not operate any machinery if under the influence of drugs or alcohol, consult a physician or pharmacist if unsure of any medication.

5.6 Operating Speeds and Vibration

Machinery should be operated within its designed limitations and for its designed use only, any unfamiliar noise, vibration or failure should be investigated and remedied promptly.

5.7 Machinery Stability and Location

The Chain Conveyor should be securely fastened to the structure of the building to prevent movement or toppling over. Location should provide access all around for maintenance and cleaning. Lighting must be adequate to allow operator to clearly see controls and work pieces but not glaring or blinding.

Consideration should be given to the operators work area for product flow and to minimise repetitive actions and unnecessary movement.

An exclusion zone around the Chain Conveyor should be maintained to prevent persons not directly involved with the operation of the machine from reaching any part of the machine.

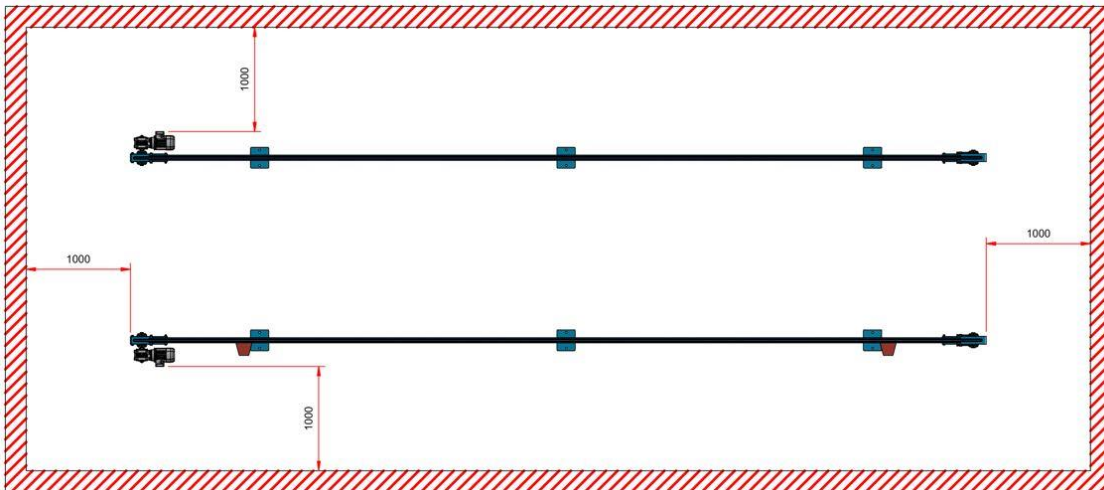


Figure 1, Recommended exclusion zone around the Chain Conveyor.

5.8 Electrical Safety

Electrical wiring must be installed and maintained by a suitably qualified person in accordance with relevant regulations.

5.9 Isolation, hold cards and lock out devices

There should be procedures for isolating and locking out the Chain Conveyor, for purposes of maintenance and to prevent unintended use should a fault have been identified.

5.10 Noise control

The normal operation noise of some machines will be more than permitted noise exposure levels. Employers must ensure adequate hearing protection is available and is used by all persons in the affected area.

5.11 Manual Handling

Manual handling should be avoided where possible, use of mechanical lifting and assisting equipment is recommended. Consider using forklifts, hoists, and trolleys to eliminate lifting and carrying components.

5.12 Recommended Service Interval

It is recommended that for optimal performance, the Chain Conveyor should be serviced every 6 months.

It is also recommended that a service log be kept, as a reminder of when the next service should be due. Spida Machinery performs service runs on a regular basis throughout NZ; however, should the need arise for an early service, or should a service need to be booked in advance, please advise Spida Machinery accordingly.



WARNING! Do not operate the Chain Conveyor without having received the proper instruction in operation and safety from this manual.

WARNING! It is recommended that the employers maintain training records demonstrating the competencies of each employee

6 Safe Operation

NOTE: The Chain Conveyor is to be operated in accordance with this manual. Deviation from this specified operation may result in incorrect cutting, measuring or injury.

6.1 User Warnings

- The conveyors must be set so as not to allow their movement through the cutting/pressing area of adjacent machinery.
- All machine and components should be inspected upon delivery and at weekly intervals for looseness, fracture, bends, sharp edges or surfaces and any other condition that may contribute to a human mishap or further deterioration of the machine. We suggest a log be kept for this purpose.
- When broken, damaged, or loose parts (or any condition that may represent a hazard) are observed, corrective action should be taken immediately. Inadequate attention to maintain the machine can cause the premature failure of these parts. We suggest this information also be logged.
- The electrical boxes should be locked at all times to avoid casual entry by unauthorized persons, as touching live surfaces is hazardous.
- Split, broken, warped, twisted or material with excessive wane should be avoided or used with caution because of the greater possibility of the material not being held securely during manufacturing processes.
- The machine is not to be used for any other purpose than the transportation of material.
- Keep hands out of moving parts on the machine. Operators should be instructed not to extend fingers or limbs into or beyond the vicinity of the warning labels. The danger here is obvious – fingers in these areas will risk mutilation.
- Be sure the machine is completely free of foreign objects, and that all guards are in place before connection to electrical supply.
- Any guards removed for maintenance or adjustments **must** be replaced before the machine is put back into service.
- Exceeding the capabilities of the machine will void the warranty and could lead to a serious injury.
- All Operators should read and then sign the register of this manual before operating the Chain Conveyor to ensure they are thoroughly familiar with the machine capabilities and limitations and to ensure correct operating procedures are adhered to.
- Failure to perform the daily and weekly service checks as per the schedule may result in serious machine damage or a severe accident.



WARNING! This machine must only be operated by personnel who have been properly instructed in all aspects of the machine's safe operation. They must also be wearing the recommended protective clothing and have thoroughly read and understood this operation and service manual.

6.2 Manual Handling

The following is not a comprehensive list. Manual lifting has the potential to be hazardous; so, for a full description of material handling please refer to lifting standards, techniques, and your own company policies.

- Ensure material supply is via forklift or other support mechanism
- Ensure correct lifting techniques are adopted to transfer material to infeed of cutting line
- Suggest use of trolleys or bench at required height and location to minimize handling and twisting
- Ensure required PPE is worn
- Ensure correct and appropriate lifting techniques are used
- Suggest the setup of a material supply via gravity roller transfer system
- Avoid twisting torso when moving pre-cut members from transfer system to pressing surface of table
- Only lift components of weight which you assess to be within your limit
- Use machinery (forklift) for material decreed to be too heavy or ask for assistance from another worker



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6.3 General

Table 2, General Hazards

POTENTIAL HAZARDS	SAFE WORK PROCEDURE
Safety	Ask questions if you have any doubts about doing the work safely. Check and adjust all safety devices daily.
Poor Guarding	Ensure all guards are fitted correctly and are adequately guarding moving parts. Make sure guards are in position and in good working order. Do not operate machine without guards.
Poor Housekeeping	Inspect Chain Conveyor and surrounding areas for obstructions and defects. Remove built-up debris from around machine, electrical leads, and power points.
Electrical Faults	Inspect electrical leads for damage.
Inoperable Safety Switches	Check that start/stop and emergency stop buttons operate effectively.
Incorrect Accessories	Use only the accessories designed for each specific application
Foreign Objects	Check that foreign objects and maintenance tools etc. are removed from the machine before using the machine.
Defective/Damaged parts	Any identified defects must be reported and actioned prior to use of the Chain Conveyor.



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6.4 Operation

Table 3, Operational Hazards

POTENTIAL HAZARDS	SAFE WORK PROCEDURE
Slip, Trip & Falls	Avoid awkward operations and hand positions where a sudden slip could cause your hand or part of your body to move into the line of travel. Electric power cords should be above head level or in the floor in such a way that they are not trip hazards. Floor areas should be level and non-slip. Clean up any spills immediately
Workplace	Use good lighting so that the work piece and machine controls can be seen clearly. Position or shade light sources so they do not shine in the operators' eyes or cause glare and reflections. Ensure that the floor space around the equipment is sufficient to allow the operator to process his work without bumping into other staff or equipment. Keep the work area free of clutter, clean, well swept and well lit.
Housekeeping	Clean built up debris from around the machine, electrical leads, and power points
Defects	Report all defects to the supervisor
Personal Protection	Wear safety glasses or a face shield. Wear hearing protection that is suitable for the level and frequency of the noise you are exposed to in the work area. Wear dust masks when required. Do not wear gloves when operating this machine. Do not wear loose clothing, work gloves, neckties, rings, bracelets or other jewellery that can become entangled with moving parts
Machine Guarding	Make sure all guards are fastened in position. The machine MUST NOT be operated with any of the guards removed. The machine is fitted with steel guards.
Improper Use	Only use the machine for what it has been designed for.
Material Defects	Inspect stock for nails or other foreign materials before transportation. Use only material that the machine has been designed to accommodate.
Operator Technique	Do not impede the movement of the Chain Conveyor while in use. Ensure any body parts, clothing, or work tools do not get in the way of moving parts. Only place material once the Chain Conveyor is in the home position and has come to a complete halt. Do not attempt to move the Chain Conveyor before material has been removed.
Hit by projectiles	Chain Conveyor must be electrically isolated before attempting to clear blockages or material jams. Do not use fingers to remove items which have become entangled in movable parts.



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6.5 Maintenance

Table 4, Maintenance Hazards

POTENTIAL HAZARDS	SAFE WORK PROCEDURE
Cleaning and maintenance preparation	Ensure the Chain Conveyor motors are off, and isolate power to the machine before inspecting, changing, cleaning, adjusting or repairing a machine. Do not use compressed air to remove sawdust etc. from machines or clothing.
Operational Buttons	Make sure that Operational buttons are in good working condition and within easy convenient reach of an operator. Buttons should be protected so that accidental contact will not upset the machine.
Emergency Stop Buttons	Make sure that Emergency Stop buttons are in good working condition and within easy convenient reach of an operator.
Incorrect electrical isolation of machine	Machine must be switched off and isolated from the power supply at the Main Power Isolation switch, before maintenance or cleaning
Incorrect tools	Use Correct tools for the job to minimise personal injury and damage to the machine
Guarding	Ensure Guards are fitted correctly, adjusted and in good working order.



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6.6 Recommendations

That the operator is trained, on induction, of the dangers of accessing the machine operating area.

The electrical system is to be serviced, by a qualified electrician only.

That all operators are walked through the operators' manual and all potential hazards are identified.

That good housekeeping is maintained at all times to avoid the risk of slips, trips or falls.

That approved eye and hearing protection is used at all times when operating the machine.

That approved dust masks and safety footwear are worn at all times when operating the machine.

That if the machine is not operating as efficiently as specified, the operator notify their supervisor; who in turn takes appropriate action and eliminates the problem if possible.

All guards and safety devices are not to be removed.

It is recommended that a visual exclusion zone be marked on the floor on a one metre (1000mm) perimeter surrounding the working area of the machine. To identify the work space to pedestrians.



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7 Chain Conveyor Controls

Before attempting to operate the Chain Conveyor, familiarise yourself with the location and function of each control.

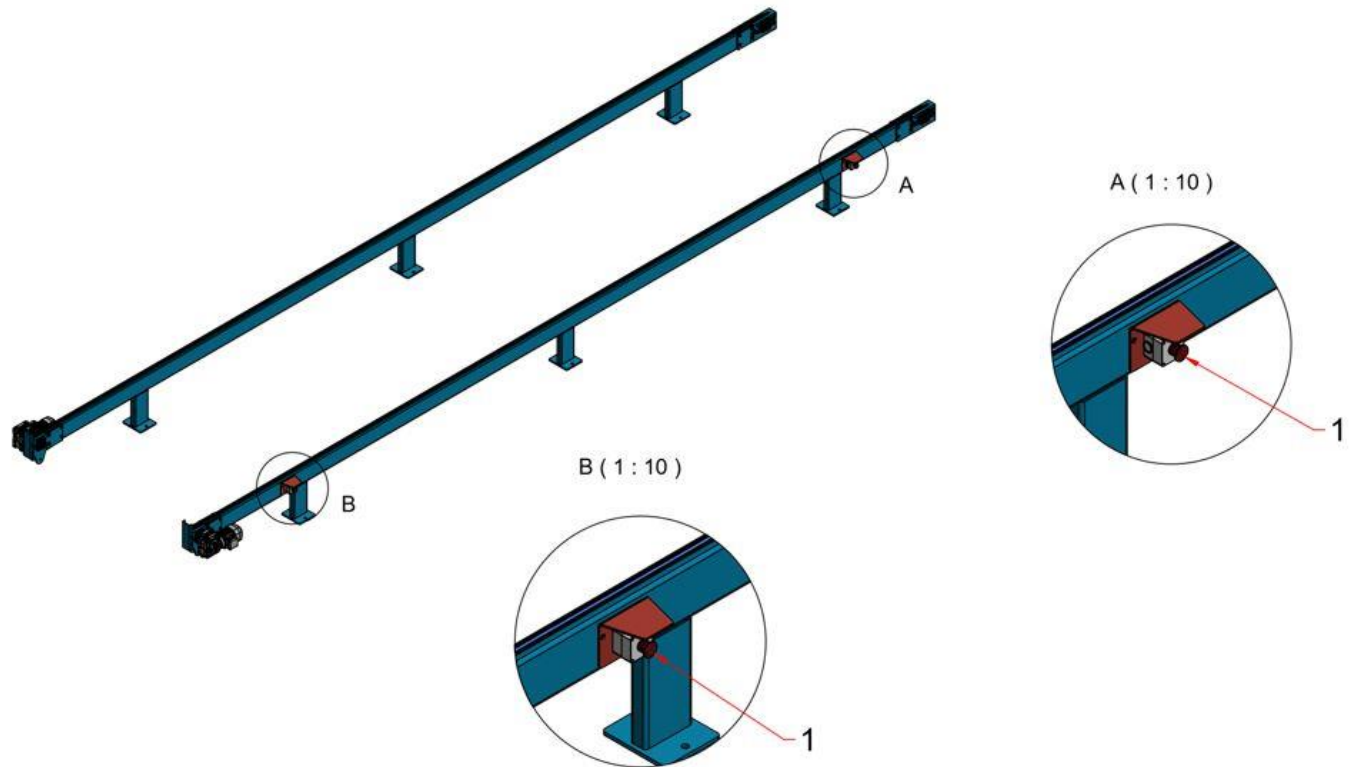


Figure 2, Chain Conveyor controls

Table 5, Control functions see Figure 2

Control	Function
1	Emergency Stop Button



WARNING! Do not operate the Chain Conveyor without the correct knowledge and function of each of the controls.

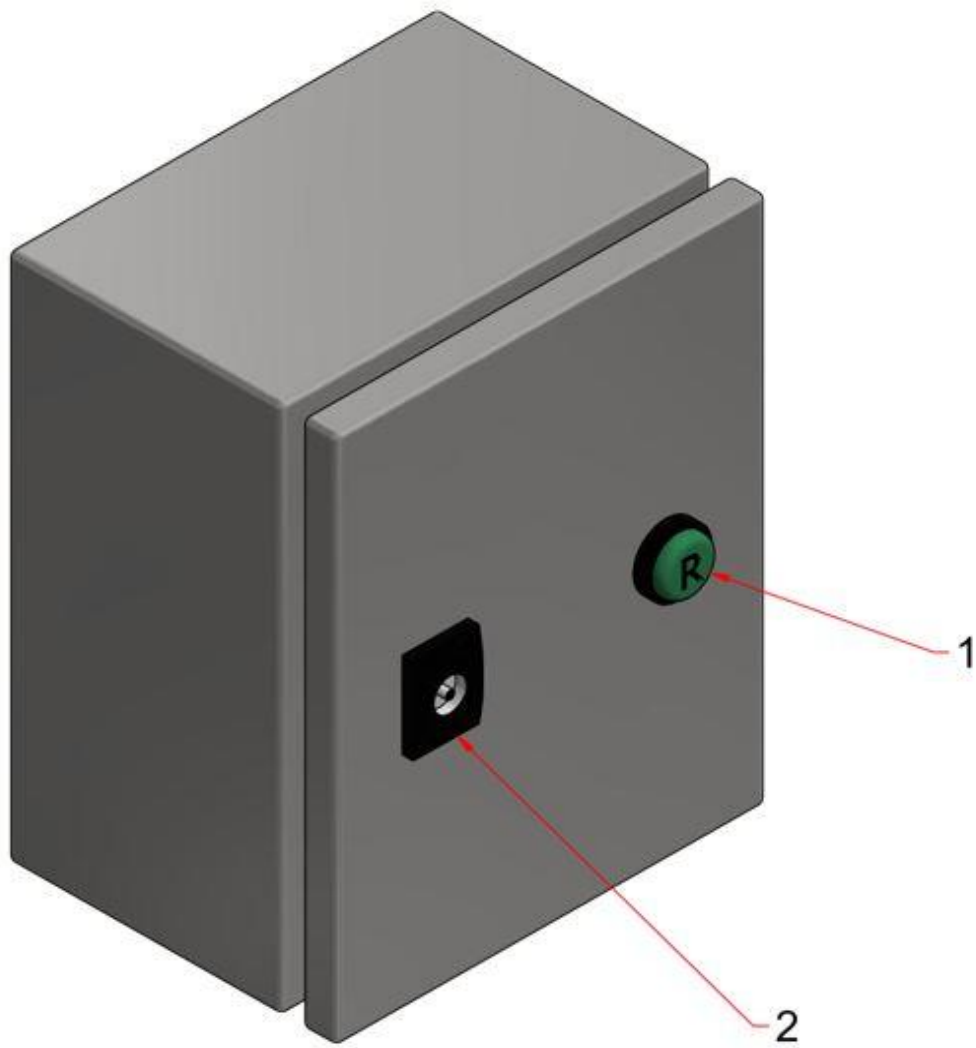


Figure 3, Electrical Direct On-Line (EKDOL) O/L

Table 6, EKDOL parts

Control	Function
1	Reset button
2	Cabinet door latch



WARNING! Do not operate the Chain Conveyor without the correct knowledge and function of each of the controls.

8 Operation

NOTE: The Chain Conveyor is to be operated in accordance with this manual. Deviation from this specified operation may result in defective products or injury.

8.1 Machine Set-up

Before operations commence, the operator must ensure that the Chain Conveyor has been set-up correctly.

To set-up the machine:

- Ensure that the safety guards are secured and correctly positioned.
- Complete a visual inspection of potential hazards near the proximity of the machine.
- Check that there are no obstructions either to any moving parts; between the Chain Conveyor and any adjacent machining area; or further down the conveyor.
- Complete all safety checks required

Once the Chain Conveyor and the surrounding area are satisfactorily clear, the Chain Conveyor can be switched on.

8.2 General Operation

The set-up and use of each Chain Conveyor will differ depending on the needs and requirements of the machine/s it is linked to; therefore, standard operating procedures will vary. Once the conveyor has been switched on, be sure to follow the specific operating procedures for that Chain Conveyor; as detailed by the employer.

In all instances, the operators must:

- Stay aware of people/items moving around the Chain Conveyor to avoid collisions.
- Ensure nothing gets in the way of moving parts/material.
- Switch off the Chain Conveyor when not in use, or when performing maintenance.

8.3 End of Operations

Once operations are complete, ensure that the Chain Conveyor is switched off and any foreign tools/equipment are removed.



WARNING! Do not use the Chain Conveyor for anything other than its intended use

9 Parts Identification

9.1 Top Level Assembly

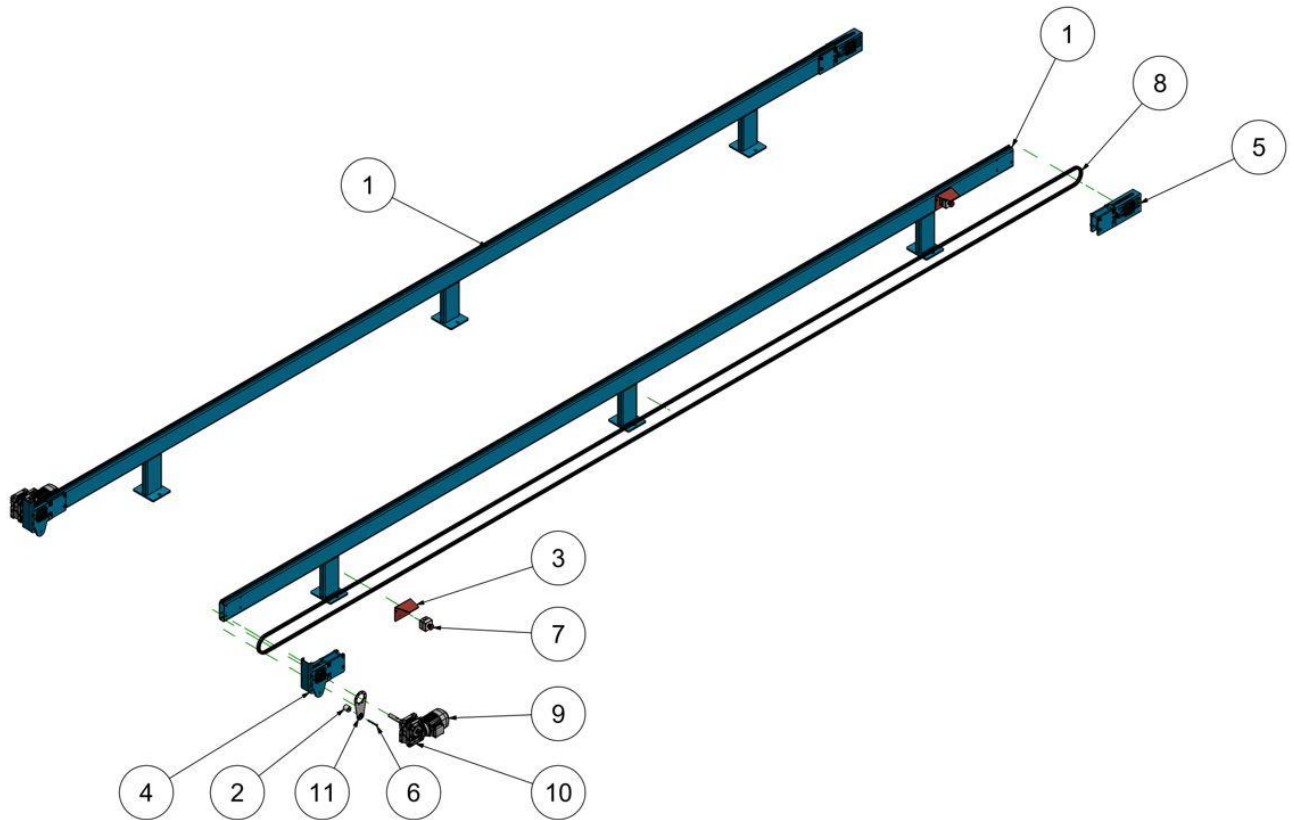


Figure 4, Complete 8m Chain Conveyor

Table 7, Chain Conveyor parts list

ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	1001001	Conveyor beam - 8200 - C/L 7785
2	2	1001003	Torque arm spacer
3	2	1001005	E Stop Guard
4	2	1001100	Drive assembly
5	2	1001200	Idler assembly
6	2	HWBHM880	Hex bolt M8x80
7	2	SW3dPS-E-Stop	Safety stop button
8	2	TRCH12B1	Chain 12B1 - 16m each
9	2	TREMBN71C4230400-50B14	0.55 kW Motor
10	2	TRGBW63U64P71B14B8	W63 Gearbox 64:1
11	2	TRTAW63	W63 Torque arm

The chain conveyor is available in increments of 8m lengths. Multiple conveyors can be obtained and placed end to end to achieve the overall desired length.

9.2 Conveyor beam and Chain Assembly

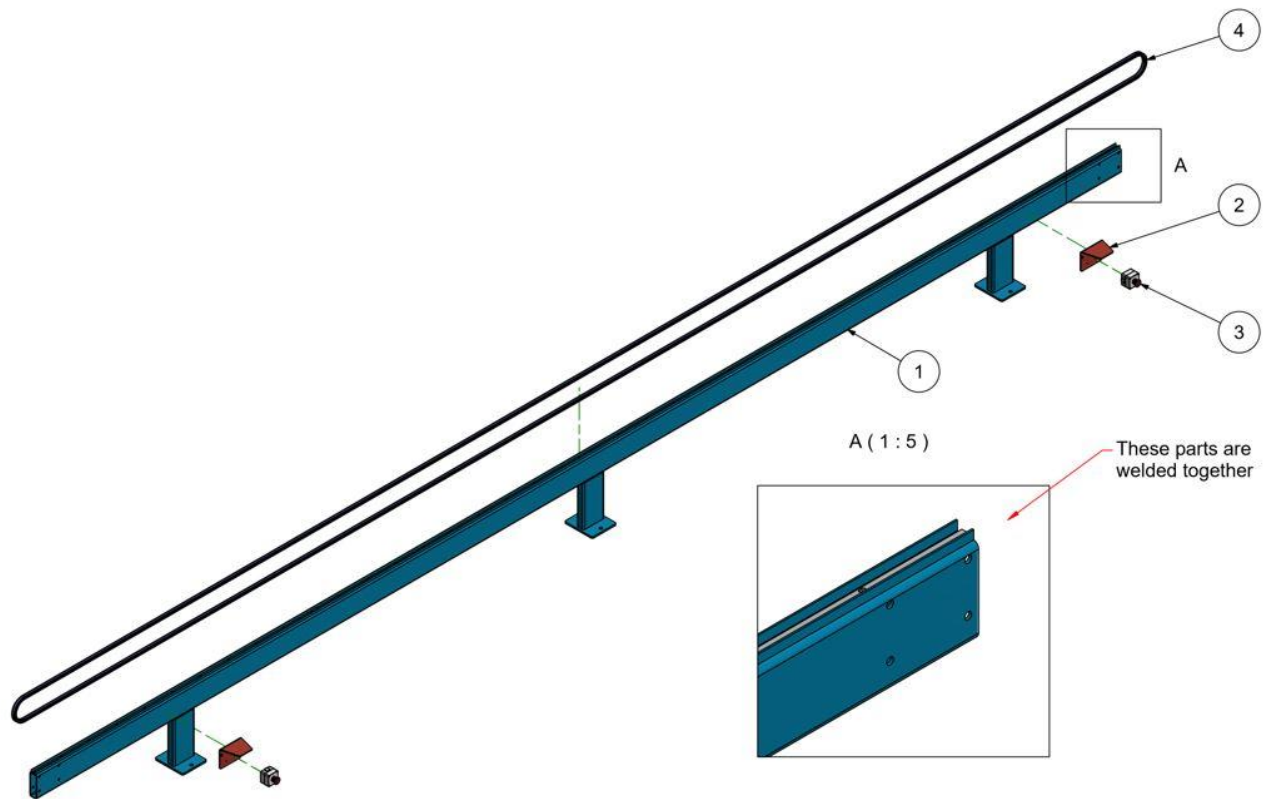


Figure 5, Conveyor beam and Chain Assembly

Table 8, Conveyor beam and Chain parts list

ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	1001001	Conveyor beam - 8200 - C/L 7785
2	2	1001005	E Stop Guard
3	2	SW3dPS-E-Stop	Safety stop button
4	2	TRCH12B1	Chain 12B1 - 16m each

9.3 Drive Assembly

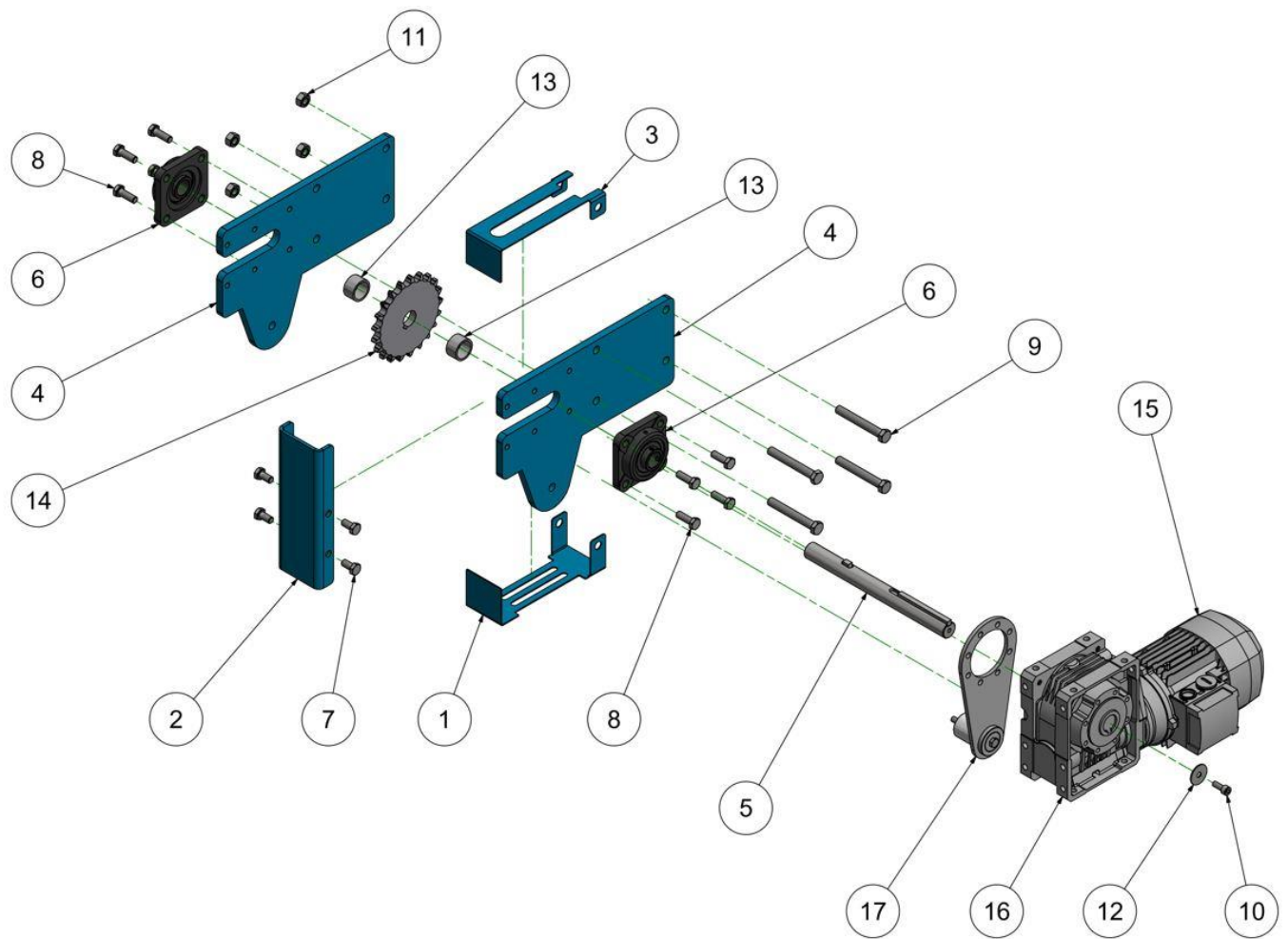


Figure 6, Drive Assembly

Table 9, Drive Assembly parts list

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	1001004	Drive sprocket cover (bottom)
2	1	1001007	Conveyor stopper
3	1	1001008	Drive sprocket cover (top)
4	2	1001101	Drive profile
5	1	1001102	Drive shaft
6	2	BRGUCF205-25	4 bolt flange bearing 25mm
7	4	HWBHM1020	Hex bolt M10x20
8	8	HWBHM1030	Hex bolt M10x30
9	4	HWBHM1290	Hex bolt M12x90
10	1	HWCSM820	Hex Socket Head Cap Screw M8x20
11	4	HWNHM12	Hex nut M12
12	1	HWWFM832	Washer M8x32 #WM10212
13	38 mm	RMSBP25H	Black pipe 33.7x4
14	1	TRCH12B1-21T-25-08	Plate Sprocket 12B 21T 25 Dia bore
15	1	TREMBN71C4230400-50B14	0.55 kW Motor
16	1	TRGBW63U64P71B14B8	W63 Gearbox 64:1
17	1	TRTAW63	W63 Torque arm

9.4 Idler Assembly

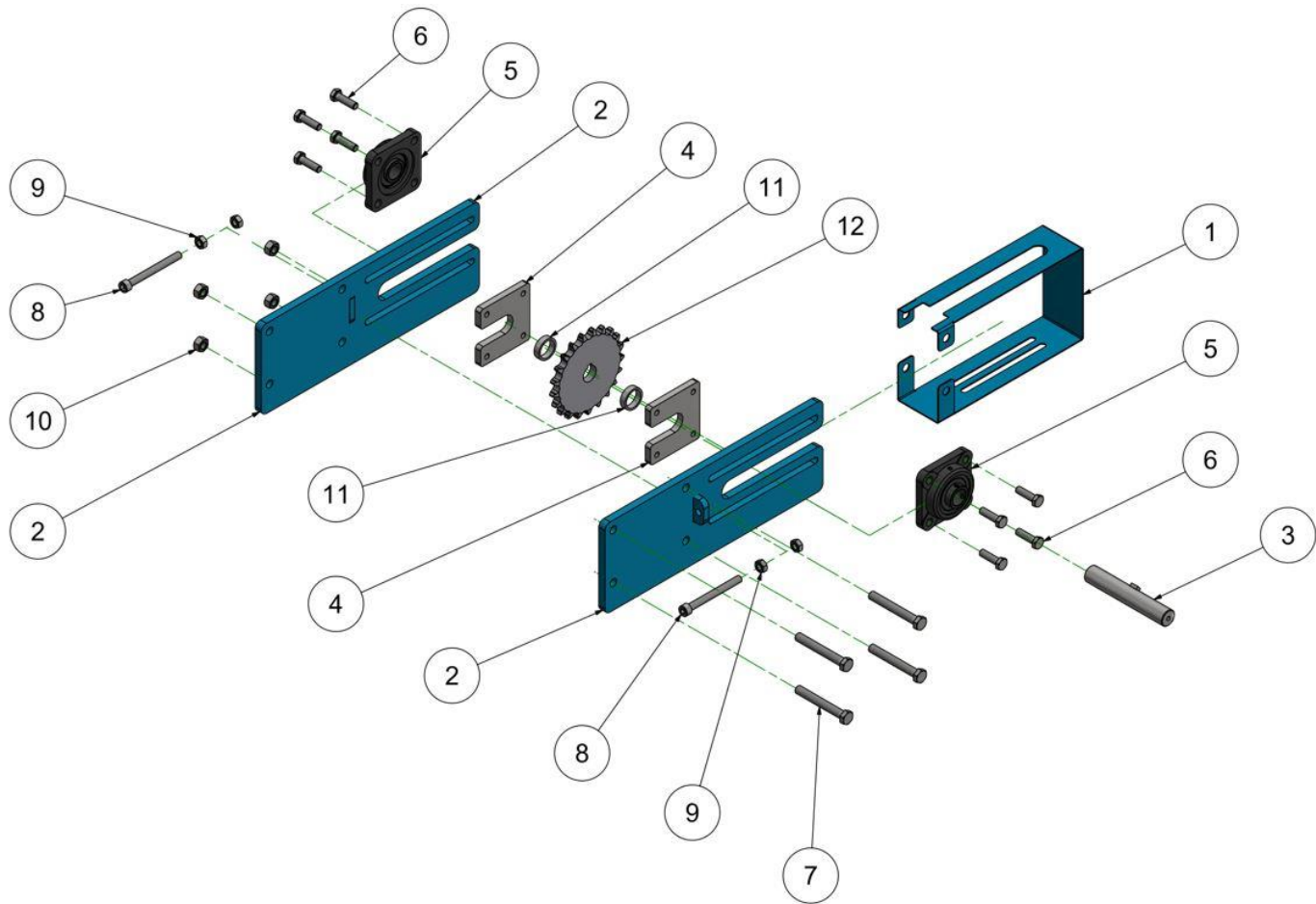


Figure 7, Idler Assembly

Table 10, Idler Assembly parts list

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	1001006	Idler sprocket cover
2	2	1001201	Idler profile welded assembly
3	1	1001202	Idler shaft
4	2	1001203	Bearing fixing plate
5	2	BRGUCF205-25	4 bolt flange bearing 25mm
6	8	HWBHM1035	Hex bolt M10x35
7	4	HWBHM1290	Hex bolt M12x90
8	2	HWCSM10100	Hex Socket Head Cap Screw M10x100
9	4	HWNHM10	Hex nut M10
10	4	HWNHM12	Hex nut M12
11	38 mm	RMSBP25H	Black pipe 33.7x4
12	1	TRCH12B1-21T-25-08	Plate Sprocket 12B 21T 25 Dia bore

10 Maintenance

If a part is damaged substantially, or if anything covered in this maintenance section cannot be fixed by general maintenance; then do not use the Chain Conveyor and contact a supervisor, maintenance engineer, or Spida Machinery.

Table 11, Maintenance intervals

Check	Day	Week	Month	½ Year	Annually
Guards in place	x				
Work area is clear	x				
Clean the Chain Conveyor of any build up	x				
Noises or vibrations	x				
Emergency stop working	x				
Motors running smoothly			x		
Inspect conveyor chain			x		
Loose or damaged bolts			x		
Electrical box in good condition				x	
Drive and Idler assemblies in good condition				x	
Maintain Chain Conveyor					x



Failure to perform these checks as per schedule indicated in Table 11 may result in severe damage or a serious accident.



WARNING! Electrical power supply must be isolated from machinery and appropriate danger tagging in place whenever any maintenance is being performed on machinery. Any defects, which are found on inspection should be rectified immediately and reported to the supervisor for appropriate action.

10.1 Guards in place

Check Guards are in place, and they are tight, with no loose bolts. Guards should always be operational.

10.2 Keep work area clear

Ensure that the area surrounding the Chain Conveyor is free of trip hazards, unnecessary tools, or other debris. There should be no reason for passers-by to approach or pass near the Chain Conveyor while it is in use.

10.3 Clean the Chain Conveyor of any build up

Keep the Chain Conveyor free of any build-up of debris. Moving parts should not be obstructed, and the Chain Conveyor should be usable without any hindrance. Remove and replace components as required to clean out any built-up debris or dust. This may involve the removal of the pulley block assemblies to clean around the ends of the belt.

Remain aware of the condition of the chain while in use, to ensure that no large pieces of debris become ensnared. Ensure that this is done with utmost care, and that body parts and clothing are well away from moving parts while motors are on. If any large pieces of debris become entangled, isolate power to the motors and ensure the chain has stopped moving before the debris is removed.

10.4 Noises or vibrations

Take note of any unusual noises or vibrations. Do not use the Chain Conveyor if the cause of any vibrations or unusual noises cannot be found.

10.5 Emergency Stop Buttons

Check emergency stops are working and that they stop the machine when activated. This test should be performed before using the machine, at least once a day.

Check operational controls are working, and that they function as designed. Inspect these controls at regular intervals.

10.6 Motors

The motors should stop and start with no issues, and should easily move the chain around the conveyor. Clean the motor regularly by blowing out dust and other debris with dry compressed air.

Do not use the Chain Conveyor if there are any substantial or unfixable issues with the motor.

10.7 Conveyor Chain

The chain should move around the conveyor smoothly and easily, and there should be no visible wear on either the chain or the conveyor beam. The chain can be lubricated with a Teflon or silicon spray. Check for loose or damaged links, and repair as required. Do not use the Chain Conveyor if the chain is unable to be repaired, or is damaged significantly.

10.8 Loose Fasteners and Fixings

Check for loose, missing, or damaged bolts especially on guards, Idler and Drive assemblies, and floor fixing. Tighten or replace where necessary.

10.9 Electrical EKDOL O/L

Check that the reset button is working, and that the motors will continue to run after it has been activated.

Ensure that the reset button can be depressed easily. Clean around the controls to remove any excess dirt and debris, and to ensure that they will continue to work as required.

10.10 Drive and Idler Assemblies

The chain should move easily around the sprockets contained within these assemblies while the motor is running. The assemblies should be generally maintained every month to check on the condition of the sprockets and drive shafts. However, if the chain is tracking sideways; is catching or not moving smoothly; or there are unusual vibrations or noises within the assemblies; then it may be necessary to remove the outer covers of the assemblies to check on the condition of the sprockets and drive shafts.

If the chain has slipped off the sprocket, or is caught in some way; or if the sprocket/drive shaft has shifted; then loosen the chain and realign as necessary. If any teeth of the sprocket are chipped or broken, then replace the sprocket as required. Ensure the sprocket and shaft are well lubricated. If the sprocket itself is not turning, and cannot be fixed, then do not use the Chain Conveyor.

Ensure there are no loose, damaged, or missing bolts, and replace or tighten as necessary.

In the drive assembly, ensure that the drive shaft is correctly located between the motor and sprocket, and that the contact area is well lubricated.

10.11 Maintain the Chain Conveyor

Regularly check all major operating components for damage, wear, fatigue, and fixing. Adjust, tighten, or replace components as required.

Annually, completely strip down the Chain Conveyor, inspecting and cleaning all parts as it is taken apart; then replace or repair parts as required as it is being put back together. Use Section 9 of this manual to ensure all parts go back in the correct place. Alternatively, contact Spida Machinery to arrange for a maintenance engineer to strip, clean, and rebuild the machine.

Do not use the Chain Conveyor if it is damaged significantly or if it is not working correctly, and all other mentioned maintenance is not applicable.

11 Foreseeable Misuse

Through experience, SPIDA's technical staff have listed (in order of occurrence) the most common misuses of the machinery by operators, the symptoms that result and the rectification required to address the misuse and return the machine to optimal working order.

Table 12, Common misuse issues

MISUSE	SYMPTOM	RECTIFICATION REQUIRED
Lack of cleaning	Conveyor chain not moving	<ul style="list-style-type: none"> - Clean conveyor, especially sprockets, drive shafts, moving surfaces, chains, and motor. - Remove any large pieces of debris, and clean out any dirt. - Clean and check motor
	Machine overheating	
	Motor tripping out or overloaded	
Lack of care	Conveyor not moving correctly	<ul style="list-style-type: none"> - Repair or replace any damaged, loose, or missing parts. - Remove any loose or unnecessary objects. - Note, if possible, how each part was mistreated, and train operators to prevent additional misuse of these and other parts.
	Excessive wear of moving parts	
	Broken, damaged, or misaligned parts	
	Parts not working as designed	
	Unusual amount of noise while parts are moving	

Any other misuse and resultant damage of the machine is deemed non-foreseeable as its occurrence is not consistent.

12 Trouble Shooting

Table 13, Trouble shooting

Trouble	Probable Causes	Correction
Motor not running smoothly	Excessive noise or vibration	Tighten any loose bolts. Make sure motor is tightly secured.
	Motor not switching on	Check electrical leads for faults. Press reset button on EKDOL.
	Drive shaft not turning	Remove any debris that may be blocking movement. Tighten the coupling if necessary. Ensure both keyway and sprocket are correctly located.
	Drive shaft not turning uniformly	Tighten any loose bolts, ensure the shafts and sprockets are located correctly in both the Drive and Idler assemblies, check condition of internal motor bearings.
	Motor is tripping	Press reset button on EKDOL.
Motor does not run at full speed	Power voltage too low	Test voltage
Motor overheating	Motor vents blocked	Clean motor
	Motor is damaged	Repair/replace motor
Chain not moving	Motor not working	Check electrical leads. Ensure motor is clean, dry, and free of debris. Press reset button on EKDOL.
	Obstruction	Clear obstructions around chain, sprockets, and drive and idler shafts.
	Misalignment	Ensure that all parts of the Conveyor are aligned correctly with the beam and chain
	Missing or damaged parts/parts moving incorrectly	Repair or replace parts as required.

If any of the above corrections do not solve the issue, then do not use the Chain Conveyor and contact a supervisor, maintenance engineer, or Spida Machinery

13 Distributor & Repairer Contacts

13.1 Agent/Distributor

Company Name: _____

Address: _____

Contact Person: _____

Ph.: _____ Fax: _____

Mobile: _____ Email: _____

13.2 Automation Repairs

Company Name: _____

Address: _____

Contact Person: _____

Ph.: _____ Fax: _____

Mobile: _____ Email: _____

13.3 Mechanical Repairs

Company Name: _____

Address: _____

Contact Person: _____

Ph.: _____ Fax: _____

Mobile: _____ Email: _____

14 Warranty

SM2012 Ltd, SPIDA Machinery, Tauranga, New Zealand, warrants the equipment listed below to the initial purchaser of the equipment only against defective workmanship and materials only, for a period of twelve (12) months from the date of shipment from SPIDA's factory, subject to the following conditions:

1. SPIDA extends the original manufacturer's warranty to SPIDA on buy-in items such as motors, saw blades and air cylinders or other such buy-in items but does not add its warranty herein described to such items.
2. This warranty only applies if:
 - a. The attached copy of this warranty is signed by the initial purchaser and returned to SPIDA's address shown above within 14 days of shipment of the goods from SPIDA's factory.
 - b. The equipment is installed by SPIDA or its licensed installer.
 - c. Regular routine maintenance has been carried out on equipment in accordance with instructions in manual provided by SPIDA and proper housing and shelter provided for the equipment.
 - d. The equipment is operated by competent personnel in accordance with the operating instructions set out in the manual provided by SPIDA and not otherwise.
 - e. The equipment has not been subjected to alterations or repairs or dismantling without prior written approval of SPIDA. Any parts returned to SPIDA either for repair or consideration of a warranty claim consequent to an authorisation to dismantle must be shipped prepaid.
 - f. SPIDA may, at its option, either repair or replace the defective part upon inspection at the site of the equipment where originally installed. The warranty does not cover the cost of freight, Labour or traveling for the removal or replacement of the defective parts,
 - g. This warranty does not apply to any deterioration due to average wear and tear or normal use or exposure.
 - h. In all warranty matters, including any question of whether this warranty applies to any claim, the decision of SPIDA is final,

This warranty is the only warranty made by SPIDA as the manufacturer and is expressly in lieu of and excludes all other warranties, conditions, representations and terms expressed or implied, statutory or otherwise, except any implied by law and which by law cannot be excluded. Neither SPIDA or its agents or servants will be liable in any way for any consequential loss, damage or injury including any loss of use, profits or contracts.

The law applicable to this warranty shall be the law of New Zealand and the parties hereto submit to the exclusive jurisdiction of the Courts of New Zealand.



Machinery/Equipment

The item bearing the following serial plate:

Date of Shipment: _____

Signed by: _____

Name: _____

Position: _____

Acceptance of Warranty

I acknowledge and accept the contents of this warranty.

Signed by: _____

Name: _____

Company: _____

Position: _____

Date: _____

15 Electrical Drawings – NZ/AU

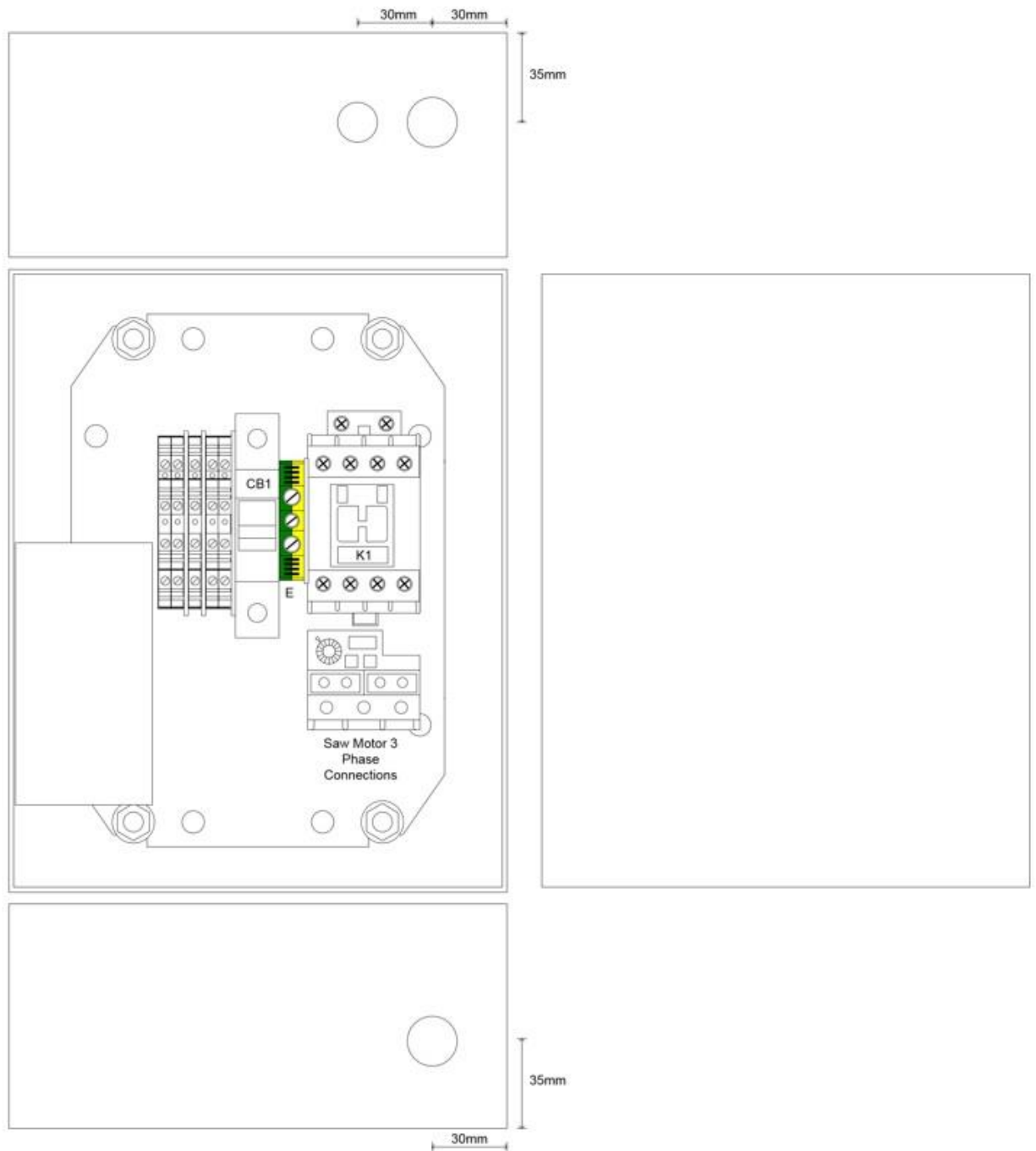


Figure 8, EKDOL Component Layout

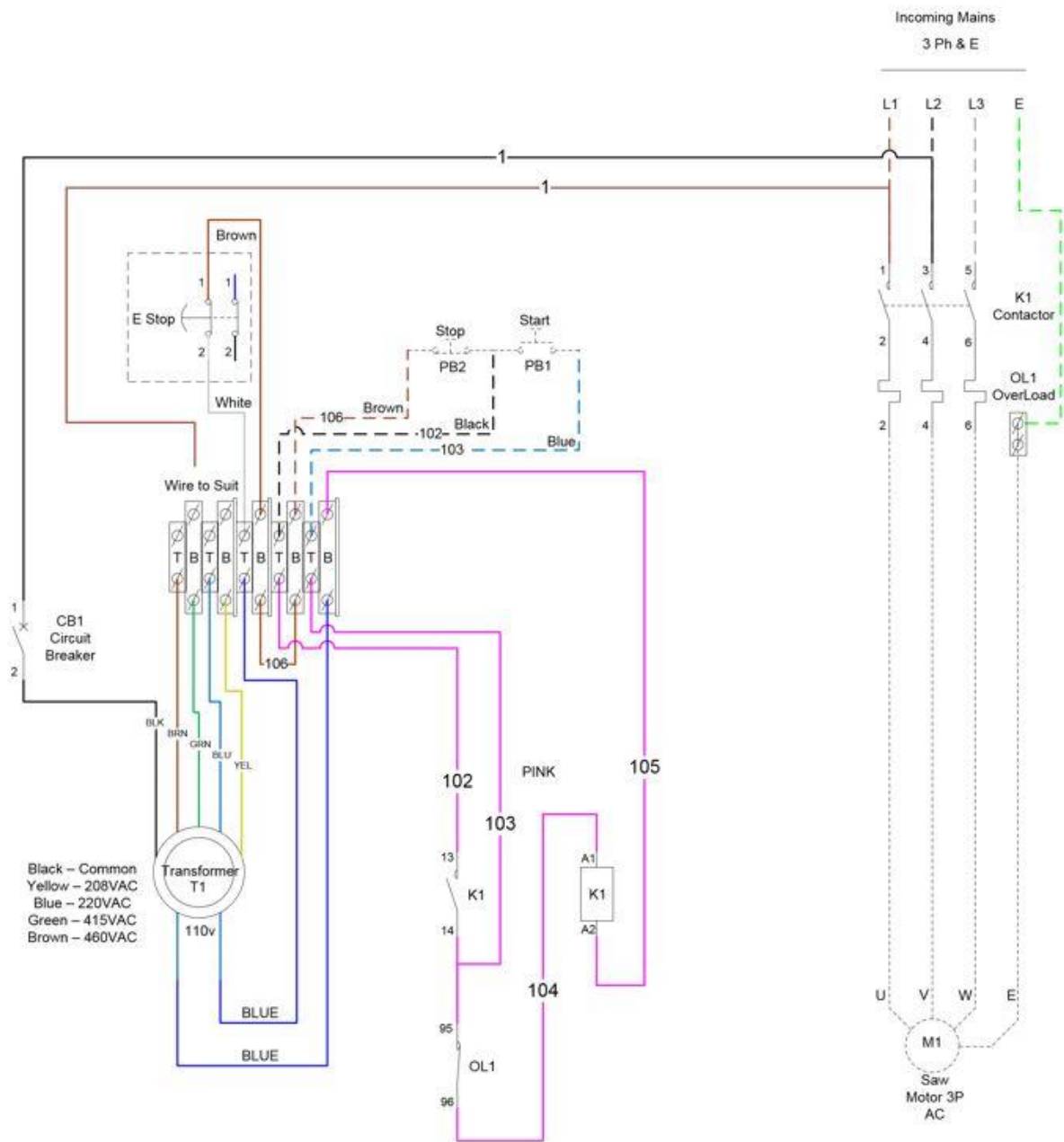


Figure 9, EKDOL High Voltage Wiring

16 Electrical Drawings – US

16.1 Version 2

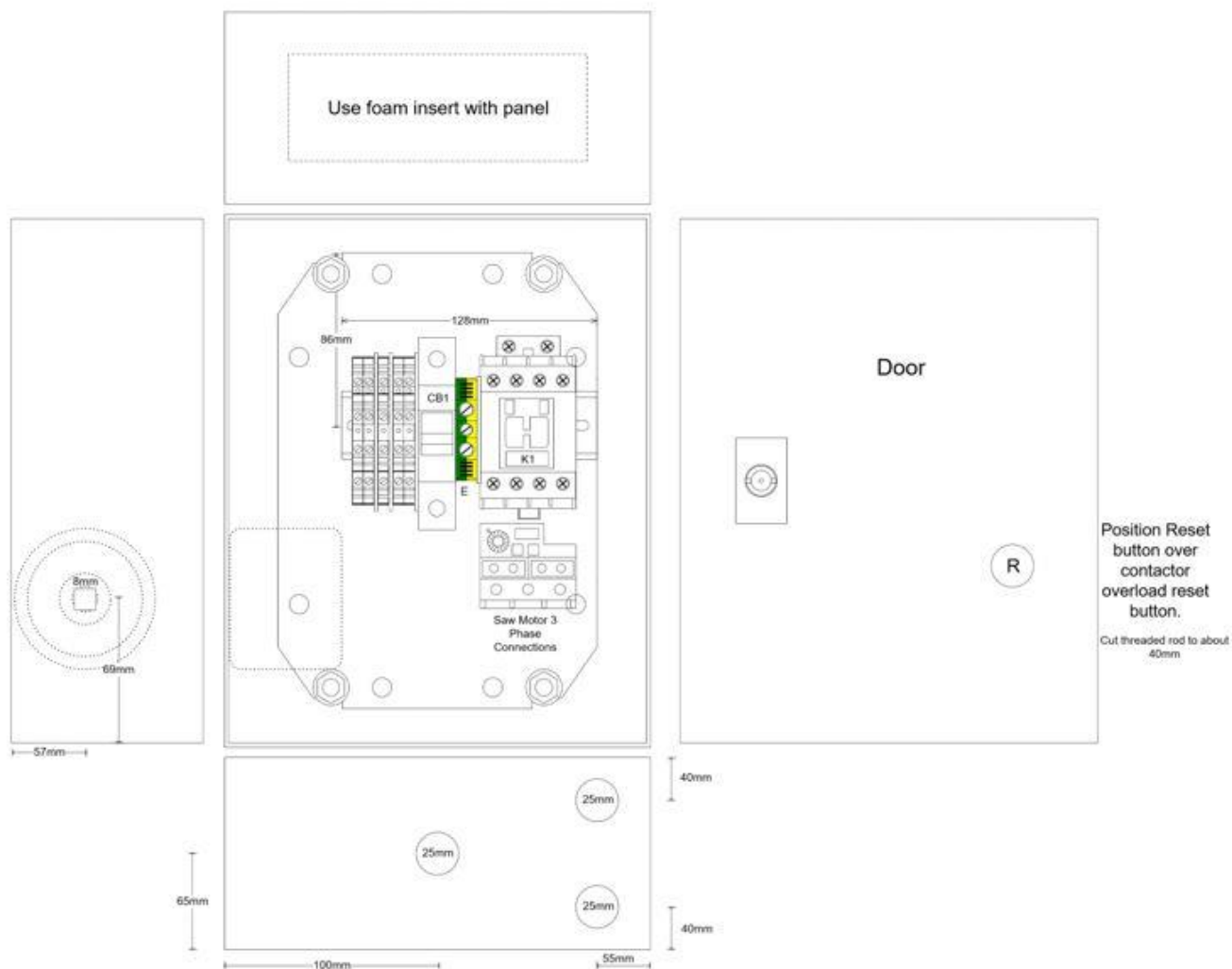


Figure 10, EKDOL US V2 Component Layout

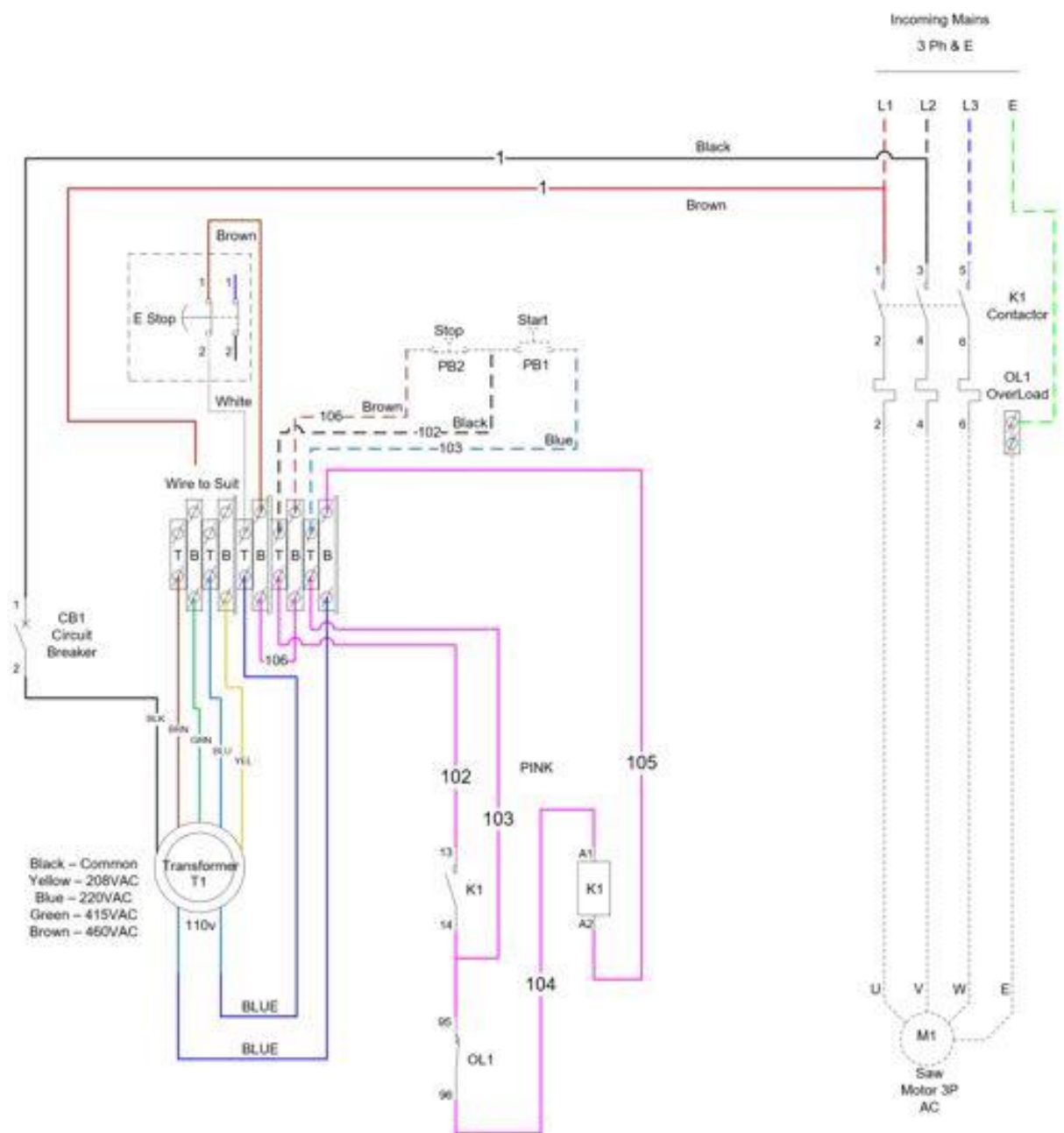


Figure 11, EKDOL US V2 High Voltage Wiring

16.2 Version 3

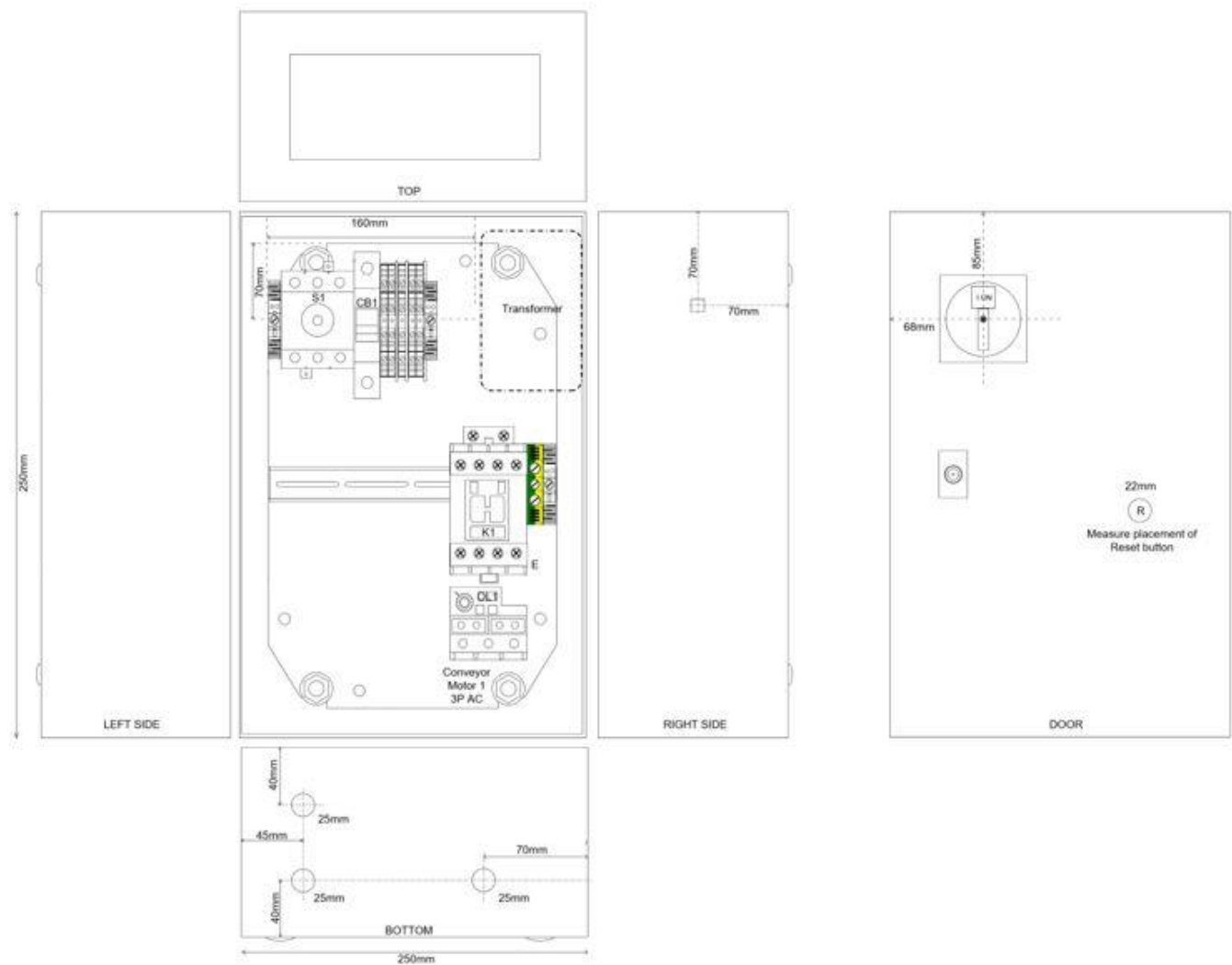


Figure 12, EKDOL US V3 Component Layout

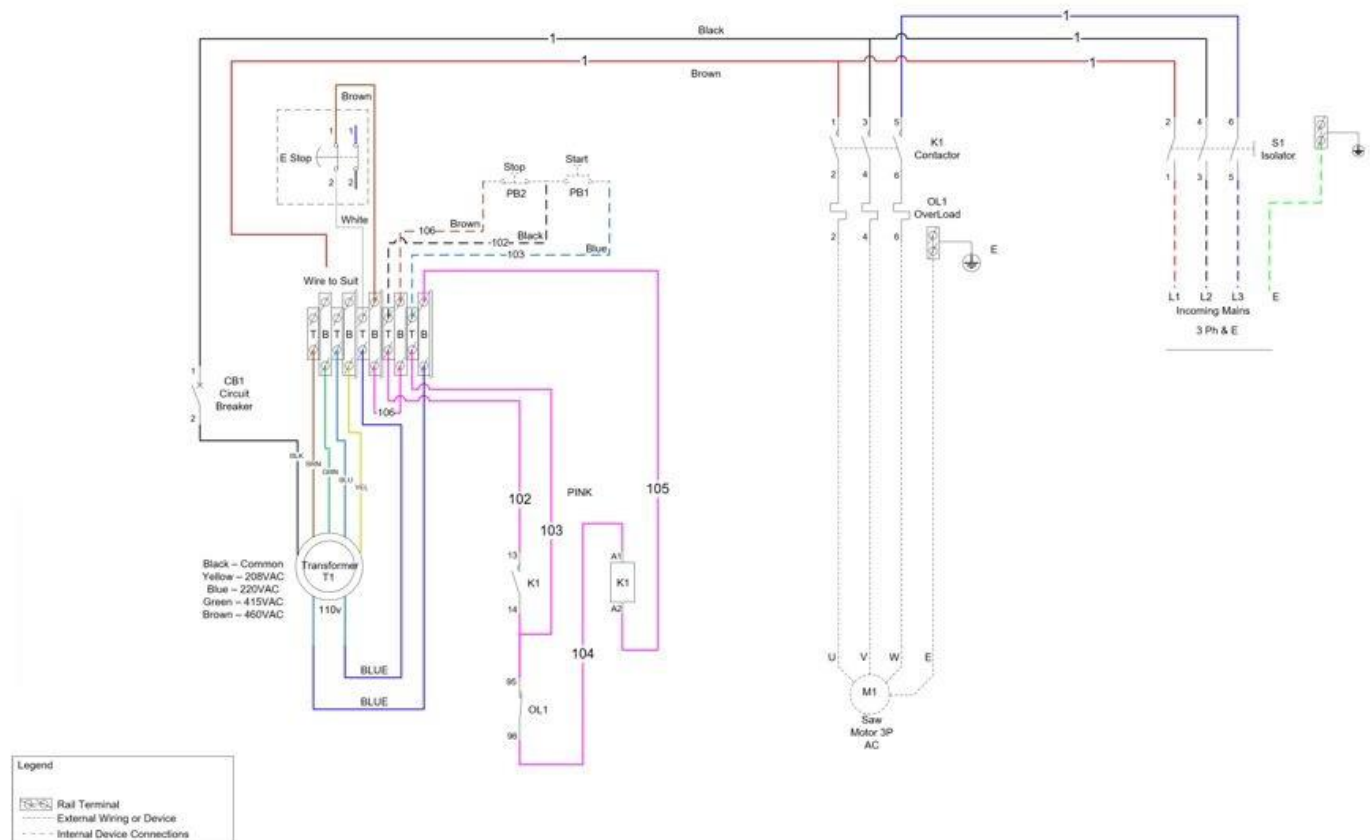


Figure 13, EKDOL US V3 High Voltage Wiring

17 Training Certificate

Instructor: _____

Company: _____

I declare that:

- I have trained the person names below (“the trainee”) in the safe operation of the machinery/equipment detailed in the training manual.
- The trainee has demonstrated an understanding of the safe operation of the machinery/equipment.
- The trainee has indicated the he/she has read and understood this training manual.

Signed: _____

Date: _____

Trainee: _____

Company: _____

Position: _____

I declare that:

- I have received instruction from the person named above (“the instructor”) for the safe operation of the machinery/equipment detailed in this training manual.
- All information in this training manual was demonstrated and explained by the instructor.
- I have thoroughly read and understood this training manual.

Signed: _____

Date: _____

Witnessed by:

Name: _____

Company: _____

Signed: _____

Date: _____