Morrisflex

ANTELOPE & DEER

BENCH, PEDESTAL & DUST EXTRACTION MOUNTED BANDFACERS

INSTRUCTION MANUAL

INSTRUCTION MANUAL	ANTELOPE BANDFACER	Morrisflex

Model: AN150V3COB

Model: AN150V3P


Model: AN150V3B

Declaration of Conformity

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6. Wall Chart (attached separately)

Due to a policy of continuous improvement, your machine may differ slightly to the exhibits

DECLARATION Of CONFORMITY

We the company

RJH Morrisflex Ltd
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Heckmondwike, West Yorkshire
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Tel 01924 402490
Fax 01924 404647

Hereby declare that

Bench, Pedestal and Dust Extraction Mounted Bandfacers, AN & ED series

Is considered to be in conformity with the following

Harmonised Standards:

BS EN 292, BS EN 294, BS EN 418, BS EN 60204-1

British Standards:

BS 4163

And meets the Essential Health and Safety Requirements of Machinery Directive 98/37/EC and subsequent amendments. Electrical control and its Components are in accordance with the Low Voltage (73/23/EEC) and EMC (89/336/EEC) Directives.

Signed by .....

J.R.Gathercole C.Eng
Engineering Director
For and on behalf of RJH Morrisflex Ltd.

2.1 General Description

This robustly built machine is designed for manual flat finishing and comes with integral guarding, and an adjustable worktable and protractor. It is supplied with an abrasive belt fitted and is therefore ready to use after being connected, as detailed in Installation Section 3.0.

2.2 Safe Offloading and Positioning

The dust extraction machine is a stable, freestanding unit. It is mounted on a dry extractor unit with a sizeable footprint, and therefore has a relatively low centre of gravity, and as such has a good resistance to toppling. The machine is supplied bolted to a pallet so that it can easily be lifted, transported and positioned by means of a Fork Lift Truck.

The pedestal machine is slightly less stable as it has a smaller footprint. It is supplied bolted to a pallet so that it can easily be lifted, transported and positioned by means of a Fork Lift Truck. Particular care should be taken when unbolting and positioning the machine as it can topple over.

The bench machine is a smaller, very stable freestanding unit. It is supplied bolted to a pallet, so that it can easily be lifted, transported and positioned by means of a Fork Lift Truck.

Please note that for protection in transit certain components may have been packed separately and will be located on the pallet around the base of the machine or inside the dust tray (dust extraction models only).

A wall chart detailing operating instructions is supplied with the machine. This chart contains important safety information and should be displayed near to the machine.

Great care must always be taken when moving all machines, to prevent injury and damage. Only suitably trained personnel should lift / manoeuvre heavy machinery to avoid damage to both people and the equipment. The machines should be fully installed (see section 3.0) as soon as possible after being unpacked.

Machine Model	Weight
Dust Extraction Mounted	135Kg
Pedestal Mounted	110Kg
Bench	65Kg

3.1 Installation

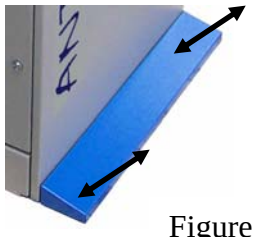


Figure 1

The foundation area required for the different models is:

- Dust extraction machine: 700mm x 640mm
- Pedestal machine: 555mm x 615mm
- Bench machine: 555mm x 615mm

It is also recommended that an area of 1m be allowed at the front of the machine for general operation (including dust tray removal) and a further 0.5m to the rear of the machine to allow access for maintenance work.

Non-dust unit based machines should be connected to an extraction system to prolong the life of the machine and to conform to local health and safety requirements

Position the machine so that it does not cause any obstruction in use. The machine must be securely mounted and should be bolted through the holes provided using proprietary fixings (Parabolt, Rawlbolt etc) with a diameter of 8mm or 10mm and length 60mm. On Dust extraction machines, access to the holes is gained by removing the two base covers. (fig. 1)

3.2 Electrical Details

Ensure that the mains supply voltage to which you intend to connect the machine is the same as that indicated on the serial number plate. The machine can now be connected to the electrical supply. A qualified electrician should always carry this out and an earth connection must be provided. Copies of the wiring diagram are found in the appendices of this manual.

Three Phase Machines - The machine should be connected to a fused isolator, 3-phase electrical supply of **400 volt, 50 Hz, 16 Amp** (for AN150V) or **10 Amp** (for ED1 & ED2) capacity. Check that the connections on the terminal panel correspond to the mains supply. Once the machine has been connected, press the start button and check the direction of the abrasive belt is rotating towards you as you face the machine. If not, isolate the machine and switch two of the phases around.

Single Phase Machines - The machine is supplied with a suitable plug, but can be hard wired to a fused, **16 Amp** (for AN2SV/CBM) or **13 Amp** (for ED1S & ED2S) electrical supply if required.

Motor	Belt Speed, m/sec	Kw	Electrics	FLC, Amps	Fuse Rate, Amps
AN150V3B – 3ph head only	**6.5**	**1.5**	**400/3/50**	**3.8**	**-**
COBA2003 – 3ph DE only	**-**	**0.55**	**400/3/50**	**1.9**	**-**
AN150V3COB – 3ph TOTAL	**6.5**	**1.5**	**400/3/50**	**5.7**	**10**
AN150V1B – 1ph head only	**6.5**	**0.75**	**230/1/50**	**7.0**	**-**
COB2001 – 1ph DE only	**-**	**0.55**	**230/1/50**	**4.8**	**-**
AN150V1COB – 1ph TOTAL	**6.5**	**0.75**	**230/1/50**	**11.8**	**13**
AN150V3P & AN150V3B – 3ph	**6.5**	**1.5**	**400/3/50**	**3.8**	**10**
AN150V1P & AN150V1B – 1ph	**6.5**	**0.75**	**230/1/50**	**7.0**	**13**

4.1 Safety Features

These abrasive belt-grinding machines are supplied in accordance with the European Machinery Directive 89/392/EC and subsequent amendments. They have a number of safety features.

4.2 Standard Safety Features – all models

- Remote push button control for stop / start and E/Stop functions.

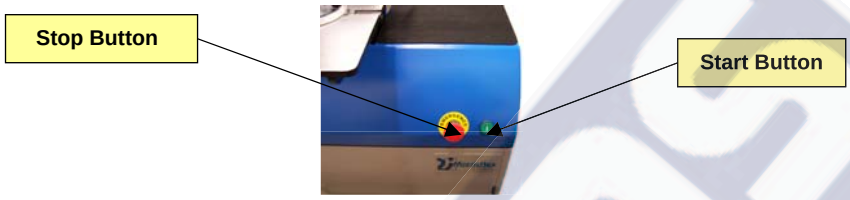


Figure 2

- 110-volt control circuit to prevent any operator exposure to potentially dangerous high voltage.
- No volt release contactors and overloads which stop the machine in the event of a power failure, motor overload or E/stop condition. In either of these cases a reset / restart will be required (see section 5.1)
- A comprehensive Guarding System to minimise exposure to the belt and other moving parts, thus reducing the likelihood of injury / accident. (Fig. 3).
- A motor cover that prevents contact with hot surfaces, rotating parts and provides a housing for the electrical control. (Fig. 3).

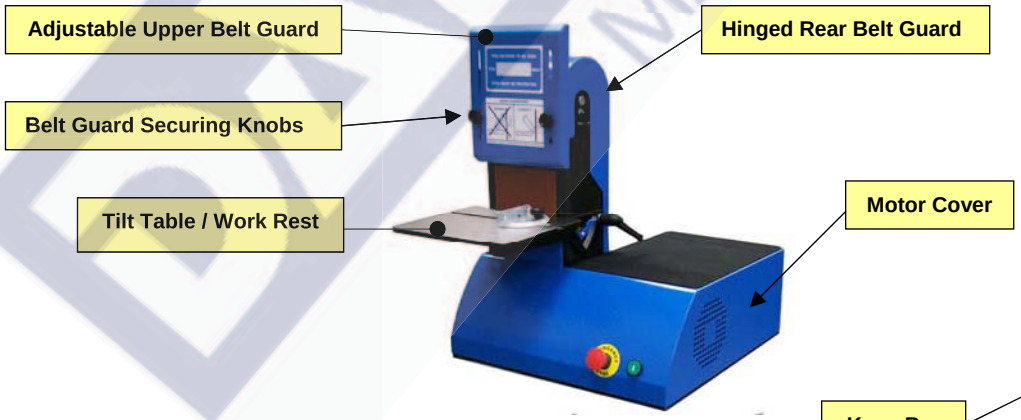
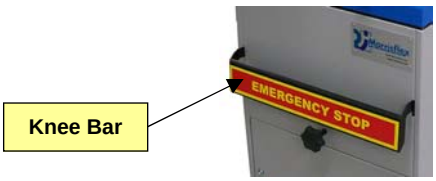


Figure 3

Figure 4



- A Knee Stop Bar that can be used instead if the conventional E/stop, when both hands are gripping the workpiece, is provided on the Dust Extractor Mounted Model. (Fig. 4)
- 76mm diameter dust extraction spigots for connection to integral or centralised dust extraction systems.

4.3 Pedestal Models

- Foot Stop Switch

4.4 Dust Extraction Mounted Models

- An integral dry Dust Extraction System (see page 1) designed to meet the requirements of PUWER. The dust extractor includes the following safety features:

    1. Fire-retardant Terylene needle felt dust bag
    2. Safety mesh between the filter and the high pressure backward curved centrifugal fan.

- An Emergency Knee Stop Bar (see fig. 4), which is the full width of the machine and suitably marked. Activation of this bar will disable the electrical feed to all moving parts of the machine. The machine cannot be restarted until the control circuit is re-energised.

4.5 Optional Safety Features

The Dust Extraction Mounted Antelope can be supplied with an explosion relief and blast barrier, for use with materials such as Aluminium, Titanium & Magnesium where there is a risk of explosion.

This is fitted to the rear of the machine and is designed to prevent a pressure build-up inside the body of the dust extractor in the unlikely event of an explosion.

4.6 Vibration

Hand Arm Vibration is always a consideration with all off-hand Linishing and Polishing operations. The level of vibration depends largely on the nature of the operation application (workpiece, material, belts etc.) and the load applied by the operator and consequently accelerations in the 3-5m/s² range and above are possible. However due to the nature of use of these machines exposure times tend to be very small and so it is likely that A(8)2.5m/s² can be achieved in most cases.

Depending on the nature of the operation (belt and speed combination), and the load applied by the operator, accelerations in the 3-5m/sec² range are possible. In such cases exposure times may need to be reduced to meet the A8 (2.8m/s²) target (typically 7 hours for a level of 3m/sec² and 2.5 hours for a level of 5m/sec²).

The monitoring of the machine and its belt is highly recommended to prevent abnormal vibrations being experienced.

4.7 Noise Emissions

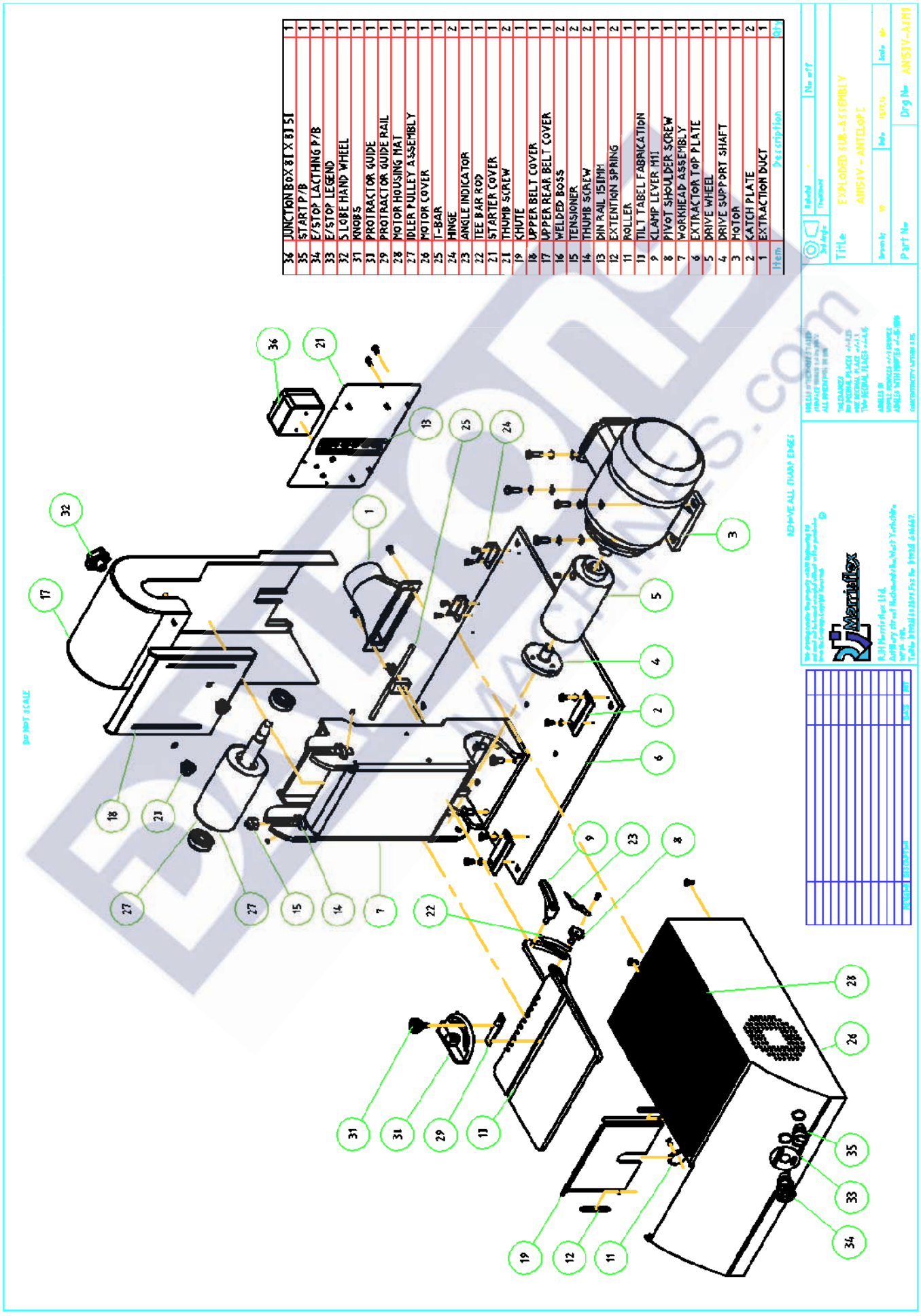
Under normal operating conditions the noise level of the machine is below the 80dbA threshold level, and ear protection is not mandatory. However, depending on the abrasive belts being used (grit size, backing material and joint configuration etc.) the noise level can rise and in some circumstances the level can be 85-90 dbA and above, in which case Ear Defenders are mandatory.

4.8 Safe Working Practices

- The Antelope and Deer have been designed and manufactured to provide many years of reliable service as Bandfacers. Use of the machine for any other purpose may lead to personal injury.
- Those operating this equipment should be thoroughly familiar with the properties and hazards attached to both the machine and any work piece materials.
- Rules regarding the wearing of protective clothing should be enforced and in particular the mandatory requirements for the provision and use of suitable eye protection, when using Coated Abrasive Products, under the Protection of Eye Regulations 1974, should be observed.
- Do not wear a tie, jewellery or loose clothing whilst operating equipment, and ensure that long hair is tied back preventing entanglement.
- Adequate machine guarding is provided and should be used at **ALL** times.
- Recommendations regarding the correct belt for a particular application may be obtained by contacting the relevant supplier or from any member of the Coated Abrasives Manufacturers Association (CAMA), at the following address: Fair Green House, Sawbridgeworth, Hertfordshire, CM21 9AJ. Tel: 0279 600602.
- Inhalation of dust particles **MUST** be avoided. Suitable Dust Extraction Systems should be provided on all dry grinding operations, to ensure that the level of dust in the atmosphere does not exceed the levels recommended by the Health & Safety Executive. The standard of Dust Extraction must take into account the volume and toxic nature of the dust.
- If necessary, provide suitable protection against inhalation of airborne particles produced by the belt grinding process.

DOS	DON'TS
✓ **Always wear suitable eye protection**	✗ **Operate the machine without extraction.**
✓ **Always wear good quality gloves when linishing.**	✗ **Use the machine without the guards properly positioned.**
✓ **Clean the machine regularly especially when linishing different types of materials.**	✗ **Enter the electrical control panel unless qualified and the electrical supply is isolated.**
✓ **Monitor the vibration levels of the machine and operators.**	✗ **Force sharp or knife like objects into the face of the belt, as this will lead to belt breakage or tearing.**
✓ **Wear ear protection**	✗ **Release the belt tension while the machine is still running.**

KNOW YOUR BANDFACER

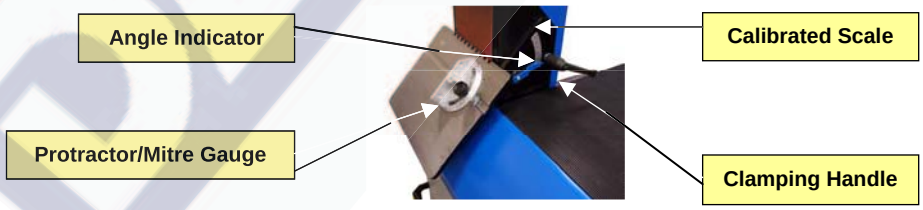


5.1 Machine Operation

- Ensure that every operator has been instructed in the use of **ALL** the machine controls.
- If the machine is mounted on, or connected to, a dust extraction system, it should be used in accordance with dust extraction rules and regulations.
- Machines connected to a dust extraction unit **MUST NOT** be used to linish different materials without first thoroughly cleaning out the dust unit and changing the supplied warning label to the new material to be machined.
- Before starting the machine ensure the sprung loaded chute is in contact with the underside of the table.
- To start the machine, depress the green Start button (Fig. 2) on the right-hand side of the machine. If you have a machine mounted on a dust extractor, this will automatically start at the same time.
- To stop the machine, press the Stop Button, Knee Stop Bar or Foot Stop Switch (depending on the machine model).
- To restart the machine, release the stop button by twisting it anti-clockwise. Then press the start button
- Do not commence work until the machine has reached full operating speed.
- Do not stop the machine by application of pressure to the belt surface.
- On dust extraction mounted machines, at regular intervals any dust collected should be released into the tray (see section 5.4). This is necessary to maintain effective dust extraction levels.

5.3 Tilting Work Table.

Figure 5



To adjust the table angle the following procedure should be followed:

- Stop the machine and ensure that the stop button is latched to prevent the machine from starting.
- Loosen the clamping handle so it becomes free, (fig. 5) using both hands grip the table at each end and push downwards. Set the calibration mark with the angle indicator to achieve the desired angle.
- Re-tighten the clamping against the table.

Note: Adjustment between the table and the abrasive belt will not be required, as this gap remains constant.

5.4 Protractor

The protractor (fig. 5) can be used to create a side-to-side angle on, for example a steel bar. To do this, simply adjust the protractor to the desired angle, and slide the bar up against it. Then, use the protractor to maintain this angle as the material is linished away.

5.4 Emptying The Dust Extractor – dust extraction mounted machines only

The Dust Extractor tray MUST be emptied as required and NO less than once a week. Overloading of the Dust Tray will impair the performance of the machine.

- Stop the machine and isolate/disconnect it from the electrical supply.
- Actuate the shaker handle (see page 1) on the front of the machine to release the dust into the dust collection tray.
- Pull out the tray using the drawer handle provided.
- Empty the dust collection tray outside the working environment and into a suitable container in order to avoid dispersing the dust into the atmosphere.
- Replace the dust collection tray and reconnect the machine

5.5 Abrasive Belt Change/Tensioning and Tracking

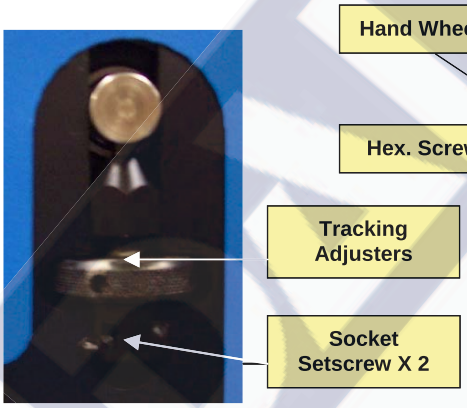


Figure 6

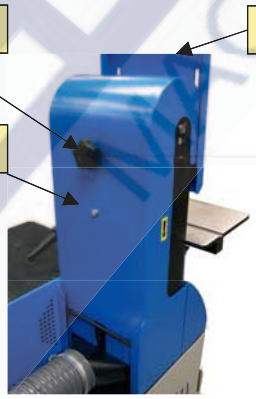


Figure 7

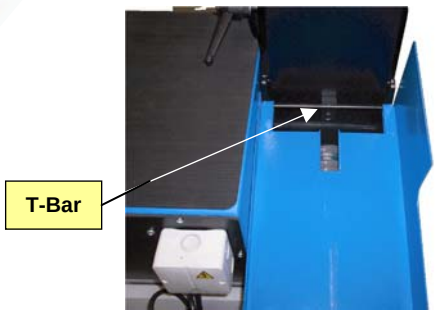


Figure 8

When new, the belt will cut freely and only modest pressure on the work piece will be needed for significant stock removal. As the belt wears, increased pressure will be required to produce the same removal rate, and if excessive this can result in damage to the platen. The continued use of worn or heavy lap-jointed abrasive belts **MUST** be avoided. To change the belt it is recommended that the following procedure be adopted.

- The belt size for all Antelope and Deer machines is 150mm wide by 1090mm long.
- Stop the machine and isolate/disconnect from the mains supply.
- Loosen the two securing knobs (fig.3) and lift up the upper belt guard to its highest position before retightening the knobs to lock it there.

5.5 Abrasive Belt Change/Tensioning and Tracking. Contd.

- Remove and retain the M6 hexagon head screw found at the rear of the belt guard. (Fig. 7)
- Now raise the rear belt guard, by the hand wheel, and lift it up until the t-bar has fully engaged the bottom of the slots, at the back, before hinging the guard on its back. Let the guard rest on the stop provided. (Fig. 8)
- It is important that upward pressure is applied, so that the contact with the tee bar is maintained, as the guard is rotated otherwise damage may occur.
- To remove the belt the tension needs to be released. This can be done by locating the left hand jacking screw adjuster (from front of machine) and loosening its screw by means of the 4mm Allen Key Provided.
- Once free rotate the adjusting thumbwheel 3 complete turns anti clockwise. This should drop the top roller. If difficulty is encountered rotating the thumbwheel, engage the holes provided, with the 4mm Allen Key, which will provide additional leverage.
- It should now be possible to remove the belt from the left hand side of the machine. In the unlikely event that this is difficult, lower the right hand side adjuster by one complete turn in much the same way as above.
- Refitting the belt is simply the reversal of this procedure, taking care to observe any directional arrows on the inside the belt.
- Once the belt has been replaced check that the belt is situated centrally on the top and bottom rollers.
- Slowly and carefully adjust both jacking screws back to the same number of rotations to take up the tension in the abrasive belt.
- Reassemble the belt guard and secure it using the hexagon set screw, again ensure to keep the tee bar in contact with the bottom of the slots.

⚠ **CAUTION - DO NOT OVER TENSION.**

5.6 Abrasive Belt Tensioning and Tracking

The belt is both tracked and tensioned by two threaded adjusting screws (fig.5), located either side of the front of the machine, two socket setscrews lock the involuntary adjustment of the screws, and maintain their position.

To track the belt, firstly loosen the two socket setscrews. Press the Green Start Button followed immediately by the Stop Button. As the belt is slowing down, carefully adjust the screws until the belt runs between the outer slots in the worktable, centrally across the platen. If the belt shows a tendency to move to the left of the table, additional tension on the left adjusting screw should affect a movement to the right; and vice versa.

- Re-tighten the socket setscrews to secure the position.

- Re-adjust the upper belt guard to the required height so exposing minimum belt for working conditions.

6.1 General

All the machines in this family are relatively simple and need little attention by way of maintenance.

Do not make any adjustments while the machine is running. Always make sure the machines power source is isolated before carrying out any maintenance works/checks. The machine is fitted with sealed for life bearings and will therefore require no lubrication.

After each use, check your machine for damage or broken parts and keep it in top working condition by repairing or replacing parts immediately. Clean out accumulated dust

6.2 Electrical

- Electrical control circuits must be checked in accordance with regulations.

- The electrical panel assembly is accessed via the rear the machine. By removing the four Phillips pan head screws allowing the panel to hinge out. (Fig. 9)

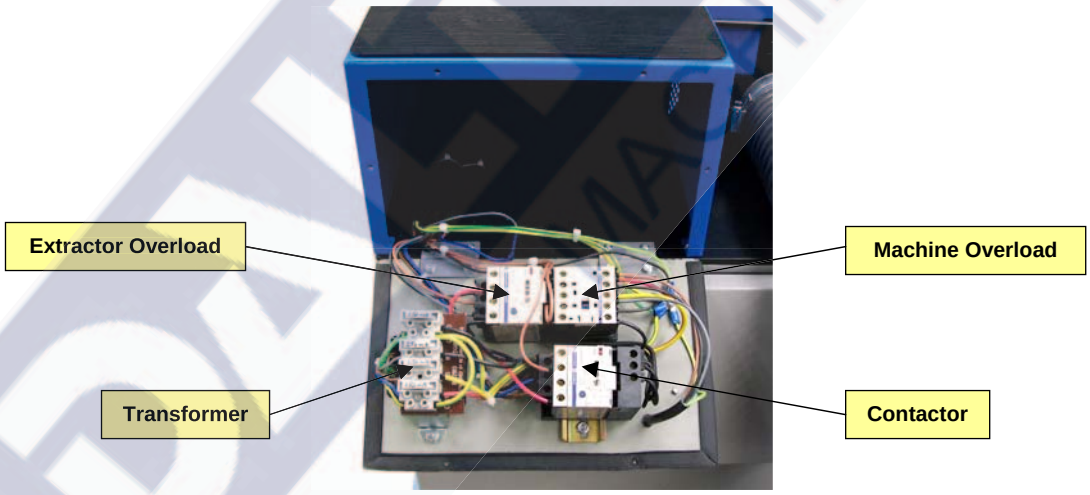


Figure 9 – Electrical Panel

6.3 Abrasive Belts

- It is recommended that all Coated Abrasive Products be stored at a constant temperature and humidity within 18 - 22• €, 50% - 65% RH. They should be kept away from damp or cold walls, windows and floors to avoid moisture absorption. Equally, storage close to heat, e.g. steam pipes, radiators, hot air ducts, ovens etc. should be avoided.
- All abrasive belts should be retained in their original packing prior to use.
- Abrasive Rolls should be stored on their side in a single layer (not stacked) to avoid edge damage and to prevent distortion of the centre hole.
- Belts should be checked prior to use for tears and holes. This is particularly important in the case of partly used belts, or belts that have been left on a machine for any length of time.
- Care should be taken to ensure that lap jointed belts are run in the correct direction as indicated.
- Belts should NOT be torn or cut down to a narrower size, as this may impair the joint and render them unsafe for use.
- Whilst starting, adjusting or running, the belt should be adequately guarded.
- NO attempt should be made to remove a belt before the machine is stationary.
- Belt support devices, e.g. Contact Wheels, Platens, Idler Pulleys should be kept in good condition, and NO attempt should be made to run a belt on a damaged or faulty device.
- Belts, other than those specifically designed for wet grinding, should be used dry, or with a recommended non-water lubricant.

7.0 Risk Assessment

The Antelope and Deer machines are developed from machines that RJH Morrisflex has supplied into the marketplace for many years and they have excellent safety pedigrees. However, like all machines of this type, they can be dangerous if used carelessly or incorrectly.

It is, therefore, essential that all the **HAZARDS** are identified and **SAFE WORKING PRACTICES** are adhered to. What follows is an assessment of the **RISKS**.

7.1 Hazards

- **FIRE & EXPLOSION** - Generally the risk is considered to be low except in certain circumstances. It is important that the risk of fire and explosion is assessed in each particular situation. There is a source of ignition in the spark stream that is generated during linishing. The filter bags of dry collectors have been known to catch fire after prolonged and heavy use. The risk of fire and explosion is greater with some workpiece materials, notably aluminium, magnesium & titanium. Special regulations exist for these materials and expert advice should be sought.

  To be assessed

- **LIMB ABRASION** - Probably the most common hazard since the process of manual grinding involves contact with the abrasive belt, which can lead to skin abrasion. Belt guarding is included to reduce the likelihood of contact with the belt. Good quality gloves (chrome leather) are recommended to reduce risk further.

  Low - medium risk

- **ENTANGLEMENT** - Potentially the most serious risk since the front of the top of the abrasive belt is exposed, but provided the Guards are used properly the risk is considered to be low.

  Low risk

- **BURNING** - As with all grinding processes considerable heat can be generated in the work piece, and burning of the skin can result if the work piece is handled carelessly. Good quality gloves (chrome leather) are strongly recommended.

  Low risk

- **ELECTROCUTION**- All electrically powered appliances have the potential to kill. Even though the machine has simple electrical controls with Isolation, Overloads, Emergency Stop, No Volt Release and Low Volt Safety circuit, there remains a danger. Only qualified personnel should be allowed access to the control panel

  Low risk

- **EYE DAMAGE** - With any grinding process there is the possibility of small particles of dust or work piece material entering the eyes. The wearing of Safety Glasses should be mandatory at all times, and when used with a suitable extraction system will constitute a low risk.

  Low risk

7.0 Risk Assessment – contd.

- **EJECTION of PARTS or COMPONENTS -** There is the risk that a component may be wrenched from the hand of the operator and lead to disintegration of the belt. Pressing sharp objects into the belt must be avoided, otherwise belt breakage and tyre shredding is likely.

  Low risk

- **VIBRATION -** All off-hand operations generate a vibration that is transmitted to the operator's arms, and in extreme cases can lead to Hand Arm Vibration Syndrome. The idling vibration without abrasive belts fitted is generally less than 0.5 m/sec^2. However the problem is more operation related than simply a function of the machine. Consumables (mops, contact wheels, belts etc) and process techniques require evaluation and close monitoring.

  Medium risk

- **NOISE -** Very much depends on the consumables used during operation of the machine. Platen machines such as this will usually be below 85dbA. Ear Protection is highly recommended.

  Low - medium risk

This type of manual equipment has been available for decades and the various processes, with their associated operating hazards, are well known, largely chronicled, and manageable. It is our belief that with good operator training and adherence to safe working practices this family of machines can be considered to have an overall **Low Risk** rating for the purposes of the Provision and Use of Work Equipment Regulations (PUWER).

8.0 Trouble Shooting

SYMPTOM	CHECK	ACTION
Machine Will Not Start	Mains On	Switch on Isolator
	Emergency Stop	Release "E" Stop
	Control Overloads	Requires Electrician
	Control Fuses	Requires Electrician
Belt Difficult to Track	Crown of Tracking/Tension Pulley	Re crown/recover
	Low Belt Tension	Check Tensioners Adjust Accordingly
	Balance of Wheel	Use Knife Edges
	Belt Joint and Direction Arrows	Remove Belt and Examine
Poor Extraction	Dust Tray	Actuate shaker handle and empty dust tray
	Hoses	Clear blockages
	Filter Bag	Replace if necessary
	Dust Extractor Motor	Repair if needed
	Control Overloads	Requires Electrician
Poor Linishing Performance	Belt Selection	Replace with a belt more appropriate for the job Seek advice if needed
	Belt Condition	Replace if necessary

Appendix 1. Recommended Spare Parts

Appendix 2. Wiring diagram - 1Phase
- 3Phase

Appendix 2. Dimensions – Dust Extraction Mounted Machines

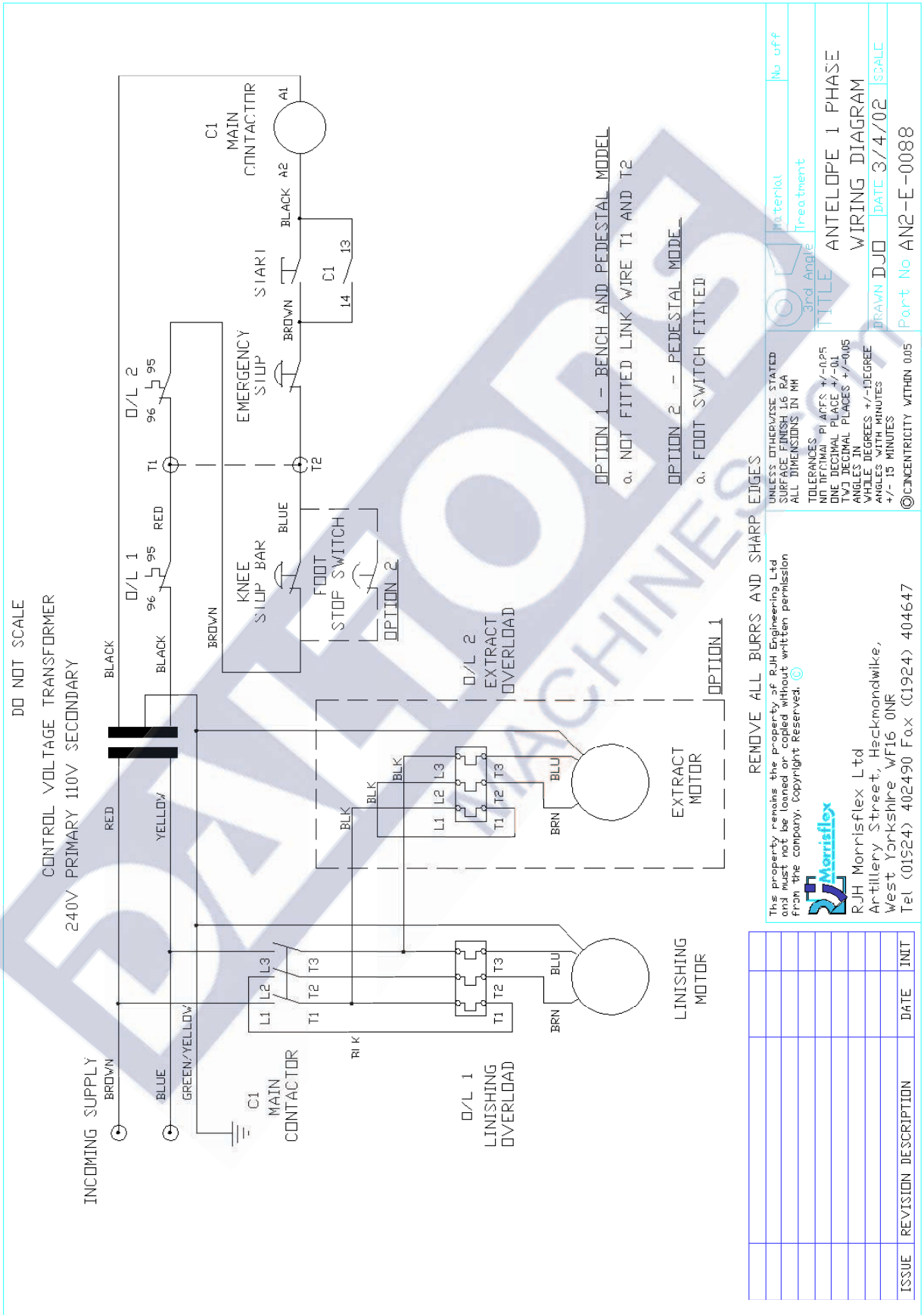
Appendix 3. Dimensions – Pedestal Mounted Machines

Appendix 4. Dimensions – Bench Mounted Machines

Appendix 6. Wall Chart (attached separately)

Recommended Spare Parts

Part Number	Description	Qty
AN150V-0030	Idler Roller Assembly	1
L 100342	Drive Roller	1
7111-220	Drive Roller Bearing	1
7242-002	Stop Button	1
7242-001	Start Button	1
P CBMFB	Filter Bag	1
N 100213	Filter Bag Strap assembly	1
AN150V-0007	Upper Rear Belt Guard	1
AN150V-0009	Adjustable Upper Front Belt Guard	1
N 100257	Belt Guard Knob	1
AN150V-0022	Table Shoulder Screw	1
AN150V-0013	Work Table - Complete Assembly	1
L FIG110	Protractor Guide	1
7653-204	Work Table Clamping Handle	1
F100160	Motor – 3 phase	1
F100371	Motor – 1 phase	1
AN2-E-0001	Contactor Overload Assembly – 3 phase Antelope	1
AN2-E-0002	Contactor Overload Assembly – 1 phase Antelope	1
AN2-E-0003	Contactor Overload Assembly – 3 phase Deer	1
AN2-E-0004	Contactor Overload Assembly – 1 phase Deer	1


DO NOT SCALE
CONTROL VOLTAGE TRANSFORMER
240V PRIMARY 110V SECONDARY
INCOMING SUPPLY
BROWN
BLUE
GREEN/YELLOW
RED
YELLOW
BLACK
BROWN
BLACK
D/L 1
96
95
RED
T1
D/L 2
96
95
EMERGENCY STOP
BROWN
BLUE
KNEE SLIP BAR
FOOT STOP SWITCH
OPTION 2
T2
START
C1
14
13
C1
MAIN CONTACTOR
A2
A1
BLACK
OPTION 1 - BENCH AND PEDESTAL MODEL
a. NOT FITTED LINK WIRE T1 AND T2
OPTION 2 - PEDESTAL MODE
a. FOOT SWITCH FITTED
D/L 2
EXTRACT OVERLOAD
OPTION 1
EXTRACT MOTOR
BLK
BLK
BLK
L1
L2
L3
T1
T2
T3
BRN
BLU
C1
MAIN CONTACTOR
D/L 1
LINISHING OVERLOAD
LINISHING MOTOR
REMOVE ALL BURRS AND SHARP EDGES
UNLESS OTHERWISE STATED
SURFACE FINISH 1.6 RA
ALL DIMENSIONS IN MM
TOLERANCES
NO DECIMAL PLACES +/-0.25
ONE DECIMAL PLACE +/-0.1
TWO DECIMAL PLACES +/-0.05
ANGLES IN
WHOLE DEGREES +/-1DEGREE
ANGLES WITH MINUTES
+/- 15 MINUTES
©CONCENTRICITY WITHIN 0.05
Material
No off
3rd Angle
Treatment
TITLE
ANTELOPE 1 PHASE
WIRING DIAGRAM
DRAWN DJO
DATE 3/4/02
SCALE
Part No AN2-E-0088
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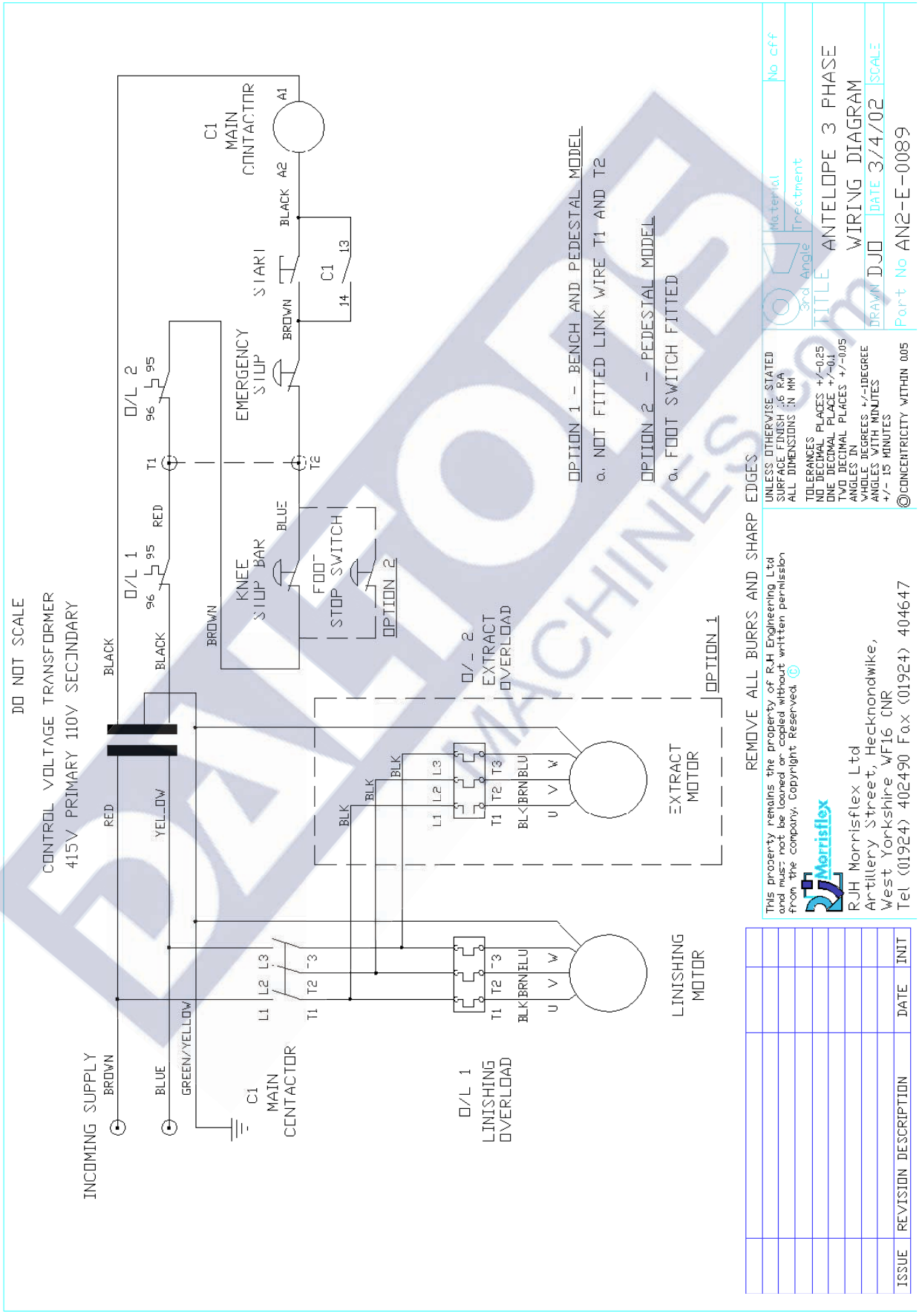
Morrisflex
RJH Morrisflex Ltd
Artillery Street, Hackmondwike,
West Yorkshire WF16 0NR
Tel (01924) 402490 Fax (01924) 404647
ISSUE
REVISION DESCRIPTION
DATE
INIT


DO NOT SCALE
CONTROL VOLTAGE TRANSFORMER
415V PRIMARY 110V SECONDARY
INCOMING SUPPLY
BROWN
BLUE
GREEN/YELLOW
RED
YELLOW
BLACK
BROWN
BLACK
RED
O/L 1
O/L 2
96
95
T1
T2
C1
MAIN
CONTACTOR
L1
L2
L3
T1
T2
T3
O/L 1
LINISHING
OVERLOAD
BLK
BRN
BLU
U
V
W
LINISHING
MOTOR
O/L 2
EXTRACT
OVERLOAD
EXTRACT
MOTOR
EMERGENCY
STOP
KNEE
STOP BAR
FOOT
STOP SWITCH
OPTION 2
OPTION 1
START
A1
A2
13
14
OPTION 1 - BENCH AND PEDESTAL MODEL
a, NOT FITTED LINK WIRE T1 AND T2
OPTION 2 - PEDESTAL MODEL
a, FOOT SWITCH FITTED
REMOVE ALL BURRS AND SHARP EDGES
UNLESS OTHERWISE STATED
SURFACE FINISH 3.2 RA
ALL DIMENSIONS IN MM
TOLERANCES
NO DECIMAL PLACES +/-0.25
ONE DECIMAL PLACE +/-0.1
TWO DECIMAL PLACES +/-0.05
ANGLES IN
WHOLE DEGREES +/-1DEGREE
ANGLES WITH MINUTES
+/- 15 MINUTES
CONCENTRICITY WITHIN 005
Material
No off
3rd Angle
Treatment
TITLE ANTELOPE 3 PHASE
WIRING DIAGRAM
DRAWN DJO
DATE 3/4/02
SCALE
Part No AN2-E-0089
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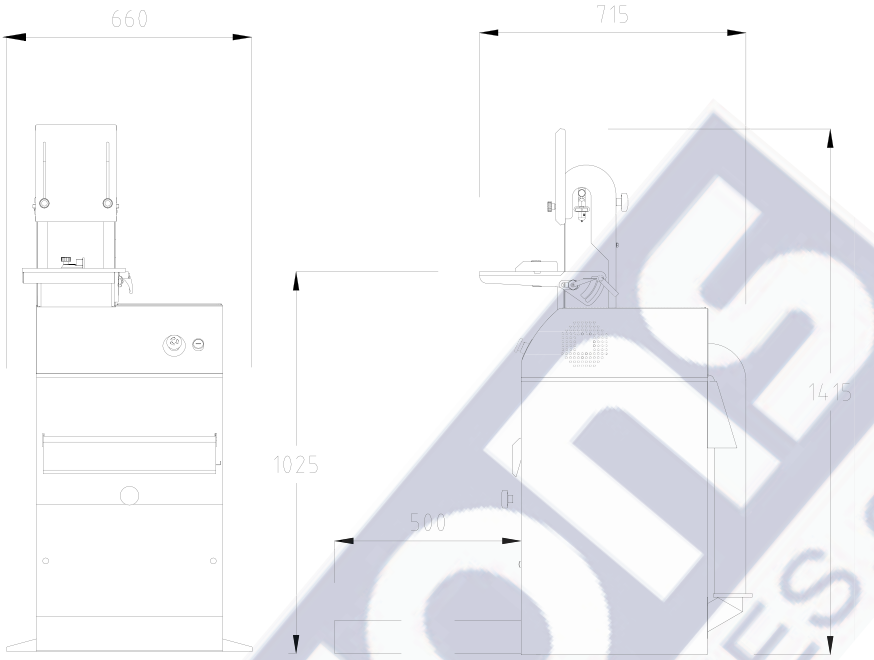
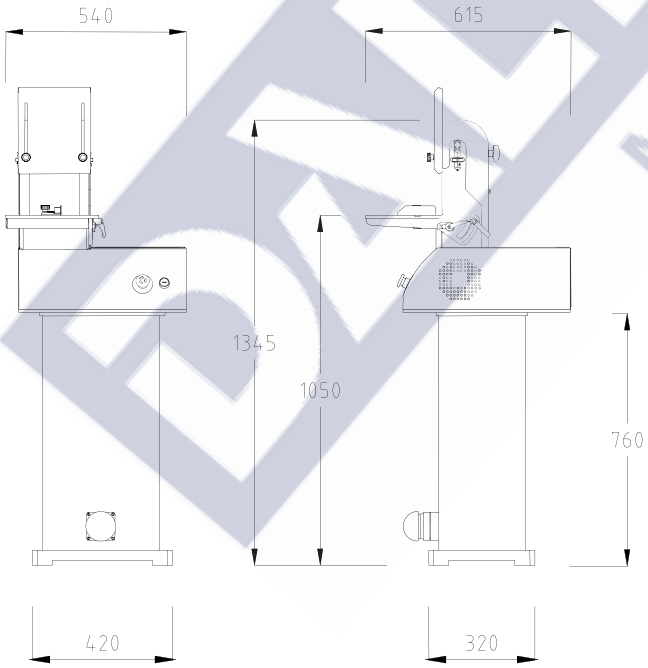
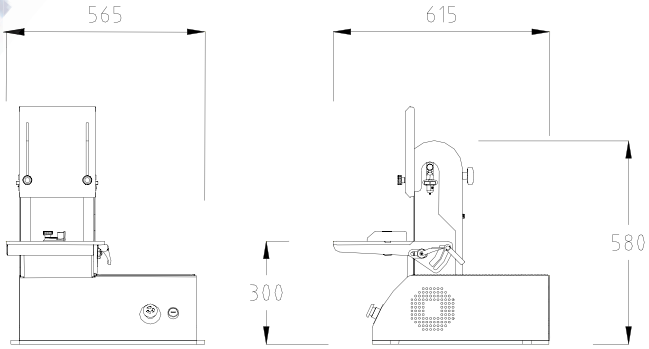
Foundation Plan



Dust Extraction Mounted.



Pedestal Mounted.



Bench.