



CHAMOIS

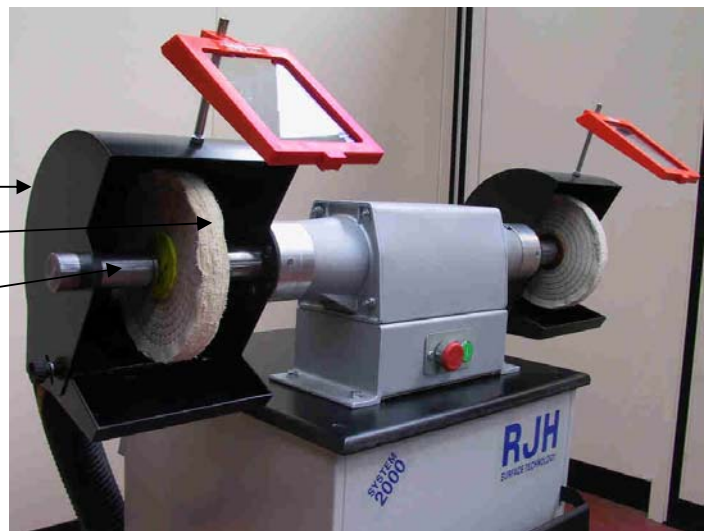
***BENCH, PEDESTAL &
DUST EXTRACTION
MOUNTED POLISHER***

INSTRUCTION MANUAL

Issue No:- 3
Date:- August 2009



- Mop Guards
- Polishing Mop
- Spindle Protection Sleeves





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Due to a policy of continuous improvement, your machine may differ slightly to the exhibits shown in this manual

Declaration of Conformity

We, the company:

**RJH Morrisflex Ltd.
Artillery Street
Heckmondwike
West Yorkshire
WF16 0NR
Tel: 01924-402490
Fax: 01924-404635**

hereby declare that:

Bench, Pedestal and Dust Extraction Mounted Polishers PL series

are considered to be in conformity with the following:

**European Machinery Directive 89/392/EC and subsequent amendments
Low Voltage Directive 73/23/EC and subsequent amendments
Electromagnetic compatibility 89/336/EC and subsequent amendments**

and are designed in accordance with the following;

**Harmonised Standards: BS EN 292, BS EN 294, BS EN 418, BS EN 60204-1
British Standards: BS 4163**

A handwritten signature in blue ink, appearing to read 'J.R. Gathercole', written over a faint circular stamp.

J.R. Gathercole
Engineering Director

For and on behalf of
RJH Morrisflex Ltd

2.1 General Description

This robustly built machine is designed for manual polishing and is supplied ready to use once the installation steps in section 3.0 have been followed. Please note that the machine is not supplied with polishing mops fitted as standard – the procedure for fitting of mops is detailed in section 6.3.4.

2.2 Safe Offloading and Positioning

The dust extraction machine is a stable, free standing unit. It is mounted on a dry extractor unit, with a sizeable footprint, and therefore has a relatively low centre of gravity, and 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 free standing unit. It is not supplied bolted to a pallet, and simple removal from packaging is required.

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 machines to prevent injury and damage. This should only be attempted by trained and experienced staff. The machines should be fully installed (see section 3.0) as soon as possible after being unpacked.

3.0 Installation

The amount of floor space required for the different models is:

Dust extraction machine: 1035mm x 650mm

Pedestal machine:

Bench machine:

It is also recommended that an area of 1m is allowed to 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.

It is recommended that non-dust unit based machines be connected to an extraction system to prolong the life of the machine and to conform to local health and safety requirements. Anti-vibration mountings are also recommended.

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.

3.1 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. This should always be carried out by a qualified electrician and an EARTH connection must be provided. If you require an electrical circuit diagram, please contact RJH Morrisflex Ltd.

Three Phase Machines - The machine should be connected to a fused isolator, 3 phase electrical supply of **400 volt, 50 Hz, 10 Amp** 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 that the drive spindle 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, **13 Amp** electrical supply if required.

Model	Speed, rpm	Kw	Electrics	FLC, Amps	Fuse Rate, Amps
PL2001TE – 3ph head only	1500	1.25	400/3/50	4.8	-
PL2001TE – 3ph DE only	-	0.55	400/3/50	1.9	-
PL2001TE – 3ph TOTAL	1500	1.25	400/3/50	6.7	10
PL2003TE – 3ph head only	3000	0.85	400/3/50	3.8	-
PL2003TE – 3ph DE only	-	0.55	400/3/50	1.9	-
PL2003TE – 3ph TOTAL	3000	0.85	400/3/50	5.7	10
PL2003SE – 1ph head only	3000	0.70	230/1/50	5.0	-
PL2003SE – 1ph DE only	-	0.55	230/1/50	4.8	-
PL2003SE – 1ph TOTAL	3000	0.70	230/1/50	9.8	13
PL2001TP & PL2001T – 3ph	1500	1.25	400/3/50	2.9	10
PL2003TP & PL2003T – 3ph	3000	0.85	400/3/50	1.9	10
PL2003SP & PL2003S – 1ph	3000	0.70	230/1/50	5.0	13

4.1 Safety Features

These polishing 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

- A No-Volt Overload Push Button Starter (fig. 1), which will stop the machine if the motor becomes overloaded or if there is a power failure. The machine will NOT restart until the Stop Button is released and the start button is pressed.

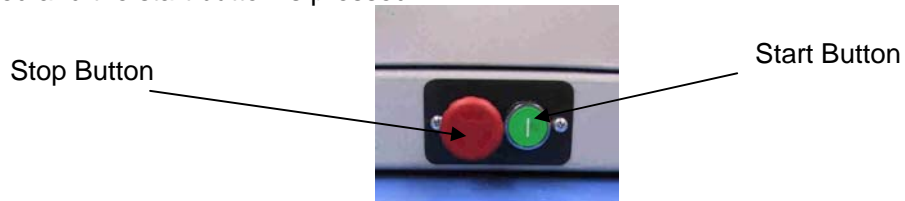


Fig 1: Push Button Controls

- A motor fitted with Thermal Overload Protection
- A comprehensive Guarding System to prevent injury from mops (fig. 2). The mop guard edges are also protected with beading to minimise risk of injury.

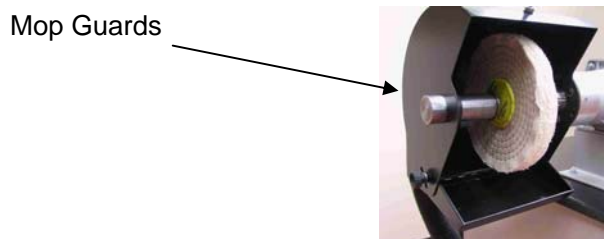


Fig 2: Guarding

- Heavy duty, adjustable polycarbonate Eye Shields for protection against sparks and other debris. Note that these should be used in combination with safety glasses (see page 1).
- Protection Sleeves fitted over the spindle, both sides of the mop (fig 3). This means that the only moving parts of the machine that can be accessed are the mops themselves, thus reducing the risk of items getting caught in the machine.

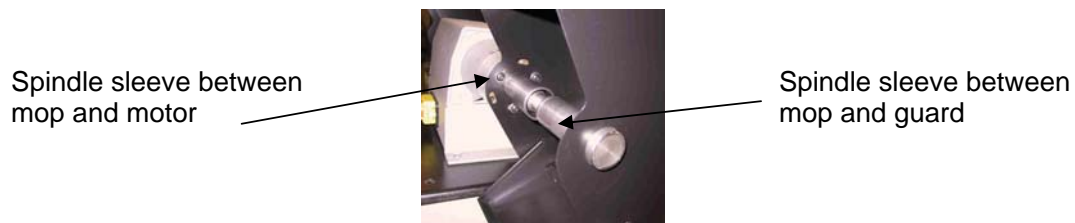


Fig 3: Spindle Sleeve Protection

- 76mm diameter dust extraction spigots for connection to integral or centralised dust extraction systems.

4.3 Pedestal Models

- Foot Stop Switch.

4.4 Dust Unit Models

- An integral dry Dust Extraction System “designed to meet the requirements of COSHH / 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 centrifugal fan.
- A Knee Stop Bar (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 via the start button.



**Figure
4**

- An illuminated lamp, on the front of the machine, is provided, to indicate that the extractor’s efficiency is reduced / impaired (see section 6.4).

4.5 Optional Safety Features

- The machines can be supplied with Lockable “E” Stops and Lockable Triple Pole Isolators, if required

4.6 Vibration

Hand Arm Vibration is a consideration with all off-hand polishing operations. Whilst the idling vibration generated by the machine is less than 2.5m/s², vibration levels in excess of 2.5m/s² (A8 target limit) may be experienced by the operator.

Depending on the nature of the operation, 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(2.5) target (typically 5.5 hours for a level of 3m/sec² and 2 hours for a level of 5m/sec²).

The monitoring of the machine and mops/brushes 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 85dbA threshold level, and ear protection is not mandatory. However, depending on the mops being used (size, material being polished 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.

4.6 Safe Working Practices

- The Chamois has been designed and manufactured to provide many years of reliable service as an off-hand polisher. 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.
- Adequate machine guarding is provided and should be used at **ALL** times.
- Rules regarding the wearing of protective clothing should be enforced. Do not wear a tie, jewellery or loose clothing when operating equipment, and ensure that long hair is tied back preventing entanglement.
- Inhalation of dust particles **MUST** be avoided. Suitable Dust Extraction Systems should be provided on **ALL** dry polishing operations, to ensure that the level of dust in the atmosphere does not exceed that 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 polishing process.

DOS	DON'TS
<ul style="list-style-type: none"> ✓ Always wear suitable eye and ear protection ✓ Always wear good quality gloves when polishing ✓ Clean the machine regularly especially when polishing different types of materials ✓ Monitor the vibration levels of the machine and operators 	<ul style="list-style-type: none"> ✗ Operate the machine without extraction ✗ Use the machines without the guards correctly positioned ✗ Enter the electrical control panel unless qualified and the electrical supply is isolated

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 and maintained in accordance with this manual all associated regulations (COSHH, HSG 258 etc).
- The machine **MUST NOT** be used to polish different materials without first thoroughly cleaning out the dust unit and changing the warning label (supplied) to the new material to be processed.
- Check that the mops are securely held by the taper adaptors and the spindle rotates freely. Also check that spindle protection sleeves are adjusted close to the mops but not touching.
- Check the direction of rotation of the mops **before attempting to polish for the first time**. Start the machine by pressing the green start button and immediately hit the red stop button. During the short run down period the direction will be evident and should be downwards when standing in front of the mop. If this proves to be incorrect then call supervisor/maintenance/technician to resolve the problem. If it is a 3-phase machine then it requires two of the phases to be swapped over, and this should only be undertaken by a qualified Electrician.
- Adjust the eye shields to the correct position.
- Ensure the tray on the bottom of the guards is adjusted to the most suitable position.
- To start the machine, depress the green **Start** button (fig 1) on the right-hand side of the push button station. If the machine has an integral dust extractor, this will automatically start at the same time.
- To stop the machine, simply press the red **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.
- Whilst polishing, be careful not to apply too much force to the mop, as this increases the risk of components being snatched and/ or excessive heat generation.
- Appropriate Polishing Compound (often referred to as Soap) should be applied to the mops throughout the polishing process. The exact compound to be used will depend on a number of factors including the type of material being polished, mop being used and finish required.
- Note that the polishing mops will take a little while to come to rest after pressing the stop button
- On dust extraction mounted machines, at regular intervals any dust collected should be released into the tray below by actuating the shaker handle. This is necessary to maintain effective dust extraction levels.

5.2 Emptying The Dust Extractor – dust extraction mounted machines only

The Dust Extractor tray **MUST** be emptied regularly, as the duty cycle requires, and this should be at least once a fortnight for a machine in daily use. A full Dust Tray will impair the performance of the extractor.

- Stop the machine and isolate/disconnect it from the electrical supply.
- Rotate the shaker hand wheel, on the front of the machine, back and forth vigorously (see page 2) to release the dust into the dust collection tray.
- Gently pull out the lower dust drawer using the recessed handle provided.
- Empty the dust collection tray outside the working environment into a suitable container and dispose in accordance with all associated regulations. Care should be exercised to avoid inhaling or dispersing the dust into the atmosphere.
- Replace the dust collection tray and reconnect the machine.

6.1 General

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

The machine is fitted with sealed for life bearings and will therefore require no lubrication.

It is a good idea to periodically clean off any debris and dust.

6.2 Electrical

- Electrical control circuits must be checked in accordance with regulations.
- Access to the contactor assembly is via the rear the machine; the stop/start switch is removed from the front by removing the two fixing screws.

6.3 Polishing Mop Maintenance**6.3.1 General**

- All Chamois machines are designed to accept 200mm x 25mm mops.
- Mops require very little maintenance
- Over time, they will wear down and need to be replaced (see section 6.3.4)

6.3.2 Vibration and Chatter

- If the mop is badly damaged it may cause vibration and require replacing.
- Mops should be regularly dressed to maintain finish and reduce vibration.

6.3.3 Mop Selection

- Selection of an appropriate mop depends on a number of factors (Work piece material, speed and power available, finish required etc). Seek advice from a specialist supplier on the type most suitable for your specific application.

6.3.4 Mop Change – Taper nose

- Isolate/disconnect the power supply
- Ensure that the mops have come to a complete halt
- Using a 13mm spanner, release the nuts on the spindle protection sleeves and slide the sleeves away from the mop to allow access.
- Using a spanner to hold the taper nose in place, unscrew the mop by turning it anticlockwise, by hand.
- Still using the spanner to hold the taper nose in place, fit the new mop by screwing it on in a clockwise direction.
- Adjust the spindle sleeves so that they are within 2-3mm of the mop. This will allow for the tendency of the mop to screw itself on more under a working load.
- Re-tighten the nuts
- After a short working period, check the sleeve gaps to ensure that the sleeves are not touching the mops.

6.3.5 Mop Change – Parallel nose

- Isolate/disconnect the power supply.
- Ensure that the mops have come to a complete halt.
- Using a spanner to hold the mop adaptor in place, undo the nut and slide off the mop and clamp plate.
- Still using the spanner to hold the mop adaptor in place, slide the new mop back on with the clamp plate.
- Re-tighten the nut.

6.4 Wire Brush & Finishing Wheel Change

- As per sections 6.3.4 and 6.3.5, “Mop Change”

6.5 Dust Extractor – **Machines supplied with integral Dust Extraction only.**

As the filter media becomes clogged it improves as a filter but the increased resistance results in a drop in the carrying velocity and consequently the effectiveness of the extractor. The extractor unit is provided with a shaker knob which when turned, back and forth, causes the suspended cleaning ring to make contact with the filter and dislodge much of the dust attached to it. The freed dust

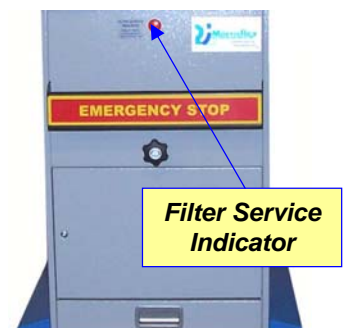


Figure 15

falls into the collection tray situated below and can now be easily removed.

Most units are currently fitted with a warning lamp which indicates the filter is in need of attention. Usually this will be a clogged filter and agitating the shaker knob and then emptying the tray will normally rectify it.

In summary:-

The Dust Extractor tray **MUST** be emptied regularly and we would recommend this to be **At least once a fortnight**. Sooner if the duty cycle dictates.

If the indicator **lamp is illuminated** then **do not use** the machine until the reason has been investigated.

The cause is likely to be a heavily soiled filter which is usually resolved as follows:-

Actuate the shaker handle on the front of the machine to release the dust into the dust collection tray.

Pull out the tray using the drawer handle provided (fig. 15).

Empty the dust collection tray outside the working environment, into a suitable container and dispose in accordance with all associated regulations. Care should be exercised to avoid inhaling or dispersing the dust into the atmosphere.

Replace the dust collection tray, ensuring it is properly seated, and restart the machine.

6.5.1 Recommended Schedules

In order to maintain effectiveness and control the hazard to design levels, it is important that performance of the unit is monitored and recorded. The suggested scheme and log (See Appendix 5) should help in this regard. We recommend 4 levels ranging from daily operator checks to the thorough examination by a competent person as follows:-

A – Daily Operator Checks

- That the extractor is **actually sucking** (Hold a piece of paper firmly in front of the inlet duct and see if it is drawn towards the unit).
- That the indicator **light is not lit**.
- That the capture hood is properly positioned
- That the tray doesn't need emptying

Call the Supervisor if attention is required otherwise take appropriate remedial action and sign log.

B – Weekly Supervisor Checks

- That the extractor is **sucking effectively**
- That the indicator **light is not lit**.
- That the capture hood is properly positioned
- That the tray doesn't need emptying and is properly seated.
- There are no partial blockages in the capture hood.
- All ducting is securely connected and intact
- **No visible emissions** from exhaust outlet

Call Maintenance if attention is required otherwise take appropriate remedial action and sign log.

C – Quarterly Maintenance Checks

- That the extractor is **working effectively** by means of a smoke test .
- That the capture hood is properly positioned

- That the Dust tray is empty.
- There are no blockages in the capture hood.
- Remove the inlet ducting from the extractor and check for blockages. Clean and remove as necessary and replace and secure duct.
- Ensure all ducting is securely connected and serviceable

- **Remove** front panel and inspect filter bag. If it is damaged or 2 years old replace with new. If dust is present on the outside of the bag then either hole(s) are present or it has come adrift from the band clamp ring at the bottom.

- Check the integrity of the unit i.e. for penetrative corrosion or leaking seals.
- Take appropriate remedial action as required and sign/complete the log.

D – Annual Thorough Examination for COSHH

This must be conducted by a “Competent Person” as defined by the HSE. This will often be a suitably qualified and experienced contractor who will conduct a detailed assessment of the unit and its effectiveness at controlling the hazard. This will involve taking appropriate airflow measurements and producing a detailed report of the findings and any identified corrective actions.

6.6 Dust Bag Replacement

The extractor bag should be examined periodically, and if found to be heavily soiled or torn, it must be replaced. Alternatively it is recommended that the extractor bag is replaced every two years. An illustrated process is shown below.

Tools Required:- A Pozidriv Screwdriver, and a pair of Pliers.



1) Remove front cover



2) Remove split pin



3) Remove shaker



4) Remove shaker frame from rear support



5) Remove rear retaining clip



6) Remove shaker frame from extractor



7) Remove front retaining clip



8) Remove shaker frame from dust bag



9) Remove shaker frame from extractor



10) Release snap over retaining clip



11) Remove retaining clip



12) Remove dust Bar

Dust bag preparation before re-fitting



1) Fully extend new dust



2) Fold dust bag inwards



3) Ensure textile hanger & retaining clips



4) Fit dust bag over bottom seal



5) Re assemble shaker frame & orientate textile hanger front to back

Assembly of the dust bag into the extractor is a reversal of this procedure

7.1 Risk Assessment

The Chamois 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**.

7.2 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 can be a source of ignition, in the spark stream, that is often generated whilst polishing ferrous materials. 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 polishing involves contact with the mop, brush or wheel, which can lead to skin abrasion. Guarding is included to reduce the likelihood of contact but good quality gloves (chrome leather) are recommended to reduce risk further.

Low - medium risk

- **ENTANGLEMENT**- Potentially the most serious risk, but provided the Guards are used properly the risk is considered to be low.

Low risk

- **BURNING** - As with all polishing processes considerable heat can be generated in the workpiece, and burning of the skin can result if the workpiece 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 polishing process there is the possibility of small particles of dust or workpiece 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

7.2 Hazards – continued

- **EJECTION of PARTS or COMPONENTS** - There is the risk that a component may be wrenched from the hand of the operator. In most cases the component will fall into the guard. However it is possible for the component to travel around with the mop and be ejected out of the guard. Correct use of the machine, without applying excessive force to the mop, will prevent this from occurring.

Low – medium 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 mops or brushes fitted is generally less than 0.5 m/sec². However the problem is more operation related than simply a function of the machine. Consumables (mops, contact wheels, brushes etc) and process techniques require evaluation and close monitoring.

Medium risk

- **NOISE** - Very much depends on the consumables used during operation of the machine. 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).

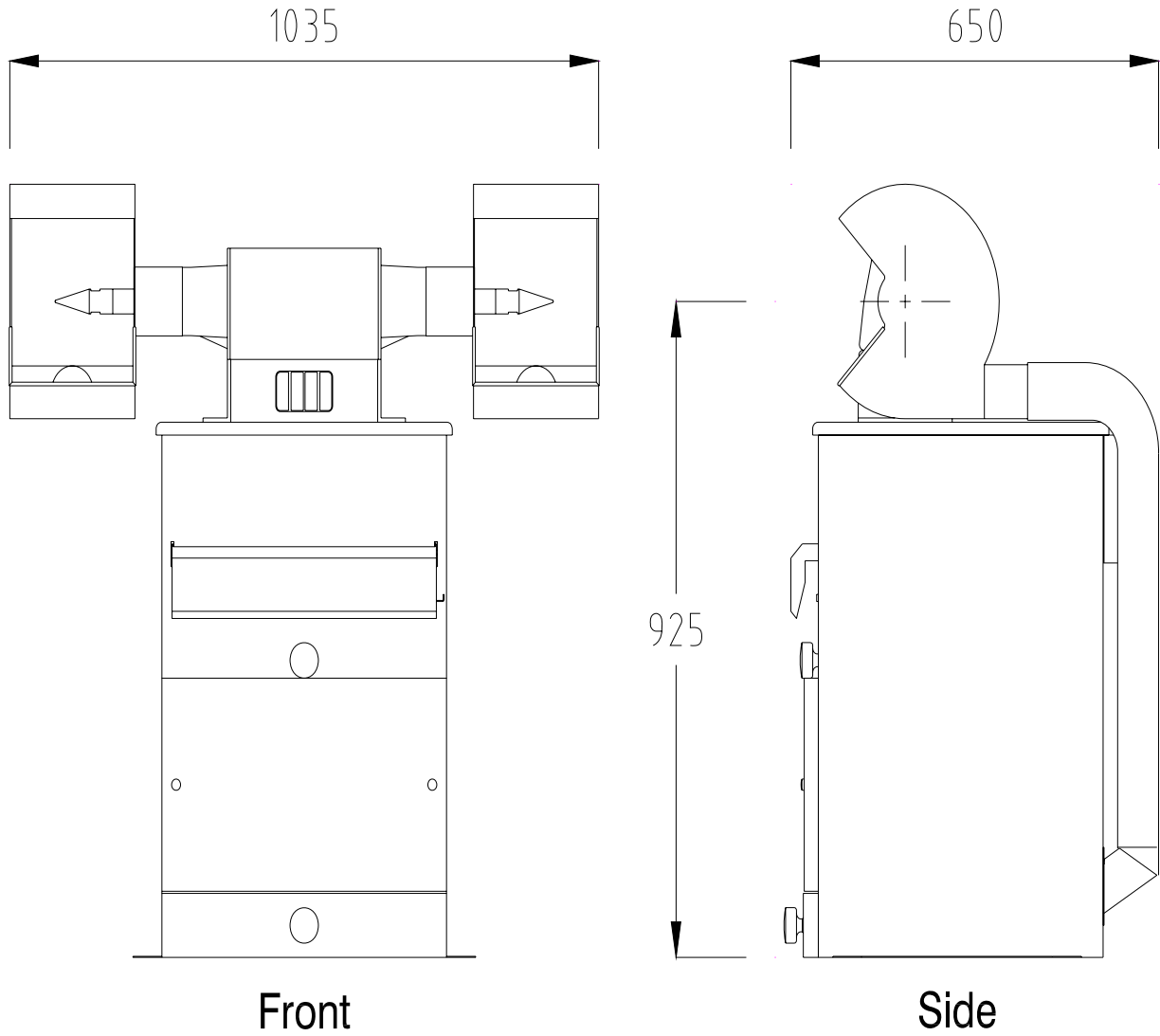
8.0 Troubleshooting

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
Excessive Vibration	Condition of Mop	Replace if necessary
	Bearings	Replace if necessary
Poor Polishing Performance	Soap	Check that the correct type of soap for the material being polished is being used. Seek advice if needed
	Mop Selection	Replace with a mop more appropriate for the job. Seek advice if needed
	Mop Condition	Replace if necessary
Poor Extraction	Dust Tray	Actuate shaker handle and empty dust tray
	Filter Bag	Clear blockage
	Dust Extractor Motor	Replace if necessary
	Control Overloads	Repair if needed
	Hoses	Requires Electrician
Excessive Noise	Spindle sleeves rubbing on mop	Adjust sleeves to give 2-3mm clearance
Mop Slipping on Taper Nose	Condition of mop centre	Replace mop

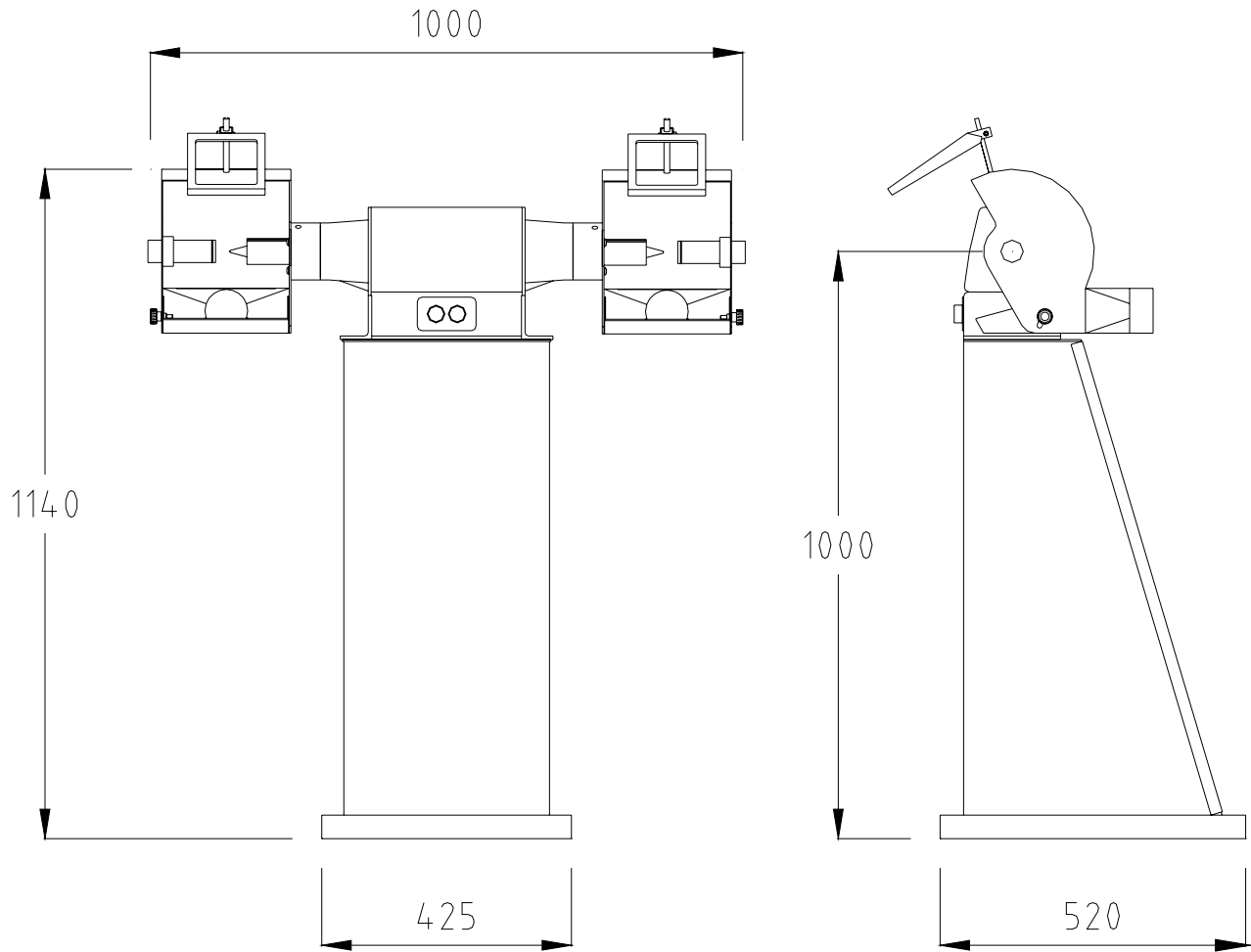
- Appendix 1. Recommended Spare Parts**
- Appendix 2. Dimensions – Dust Extraction Mounted Machines**
- Appendix 3. Dimensions – Pedestal Mounted Machines**
- Appendix 4. Dimensions – Bench Mounted Machines**
- Appendix 5, Wiring Diagram**
- Appendix 6 Extraction Log**
- Appendix 7. Wall chart (attached separately)**



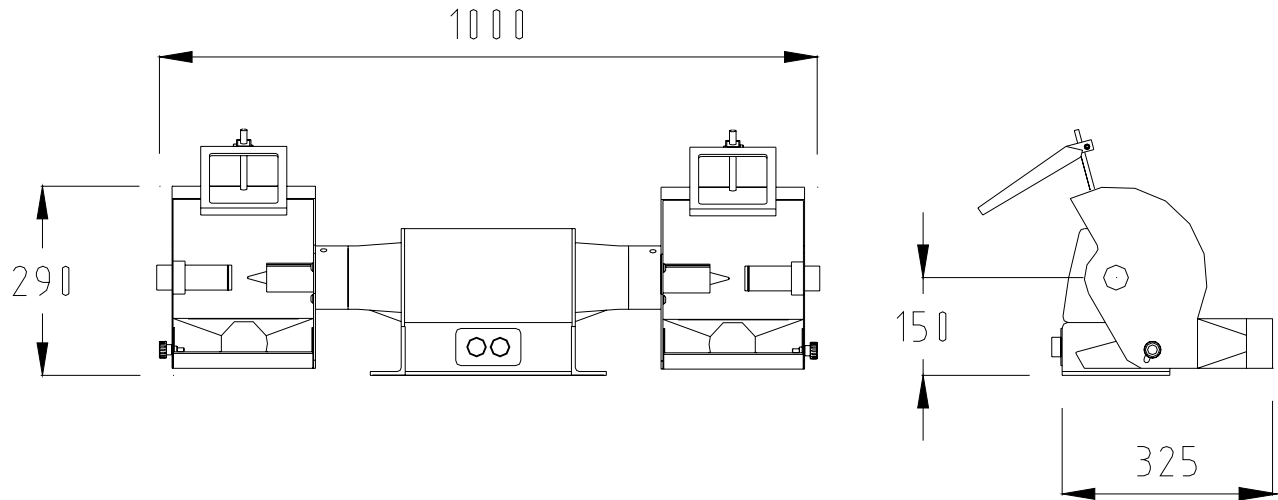
Part Number	Description	Qty
7242-002	Stop Button	1
7242-001	Start Button	1
P CBMFB	Filter Bag	1
N 100213	Filter Bag Strap assembly	1
N E	Eye Shields	2
PL-3-0006	Taper Nose - 1500rpm LH	1
PL-3-0007	Taper Nose - 1500rpm RH	1
PL-3-0011	Taper Nose - 3000rpm LH	1
PL-3-0012	Taper Nose - 3000rpm LH	1
PL-K-0001	Contactora Overload Assy – 3 phase 1500 Bench/Pedestal models	1
PL-K-0002	Contactora Overload Assy – 3 phase 1500 Dust Extraction models (110V)	1
GR-K-0013	Contactora Overload Assy – 1 phase 3000 Bench/Pedestal models	1
GR-K-0015	Contactora Overload Assy – 1 phase 3000 Dust Extraction models (110V) models	1
GR-K-0012	Contactora Overload Assy – 3 phase 3000 Bench/Pedestal models	1
GR-K-0014	Contactora Overload Assy – 3 phase 3000 Dust Extraction models (110V) models	1



Dust Extraction Mounted Chamois Machines



Pedestal Mounted Chamois Machines



Bench Mounted Chamois Machines

