

GRINDING TABLE

ESSENTIAL GRINDING TABLE

SAFETY INSTRUCTIONS FOR USE AND MAINTENANCE

N° EM61000373 - EM61000374 - EM61000375



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REVISION : A
DATE : 12-2021

Instructions for use

REF : **8695 8009**

Original instructions

LINCOLN[®]
ELECTRIC

Thank for the trust you have expressed by purchasing this equipment, which will give you full satisfaction if you follow its instructions for use and maintenance.

Its design, component specifications and workmanship comply with applicable European directives.

Please refer to the enclosed CE declaration to identify the directives applicable to it.

The manufacturer will not be held responsible where items not recommended by themselves are associated with this product.

For your safety, there follows a non-restrictive list of recommendations or requirements, many of which appear in the employment code.

Finally we would ask you kindly to inform your supplier of any error which you may find in this instruction manual.

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A - INTRODUCTION

USING THE MANUAL

Please read this manual before you start handling, installing or using the machine. Keep the manual safe in a place known to the machine user and maintenance personnel until the machine is finally destroyed.

This manual explains how to transport, install, use and maintain the filter. It cannot in any event replace the experience of the user for operations of varying difficulty.

Before the filter is used by a new user, make sure that they have read this manual and understood all the explanations provided.

For any further information, please feel free to contact the technical departments of **LINCOLN ELECTRIC**.

MACHINE GUARANTEE

This machine is guaranteed for 12 months from the date of purchase.

During the first 12 months of use, defective parts shall be replaced free of charge providing the damage is not the result of improper use of the machine.

The machine guarantee shall cease automatically when the machine is no longer the property of the original buyer.

The terms of validity of the guarantee shall be subject to verification and acceptance by our sales department.

Any nonconforming use that could damage the machine shall not be covered by the guarantee.

For the guarantee to operate, the equipment must be inspected by our technical department.

ASSISTANCE

LINCOLN ELECTRIC is at your disposal for any work on your equipment.

Please send any requests to the technical department.

HOT LINE (+33) 825 132 132

DESCRIPTION OF PICTOGRAMS

To make this document easier to understand, it contains pictograms with the meanings given below :



DANGER: indication used when failure to follow the instructions could lead to a serious hazard for personnel.



WARNING: indication used when failure to follow the instructions could lead to damage to the machine, associated elements or the surroundings.



This symbol shows that the description is intended for specialised personnel.

B - GENERAL SAFETY INSTRUCTIONS

ELECTRICAL SAFETY

The **ESSENTIAL** grinding table does not include any electrical component or fan. However, an external connection is required for the use of this down-draft table. The section below describes the safety rules to apply in such an installation.

Connection to the mains

Before you connect your machine, please make sure that:

- The meter, the overintensity protection system and the electrical installation are compatible with its maximum power rating and its supply voltage.
- It can be connected, in a single-phase or three-phase with earth system, to a socket compatible with the plug on its power cord (mobile equipment).
- If the cable is connected to a fixed point, the earth connection, if there is one, may never be cut off by the system offering protection from electric shocks.
- The switch, if there is one, is set to OFF.

Workstation

Arc welding and cutting requires strict compliance with safety requirements in respect of electrical currents (Order of 14 December 1988).

Working on the machine

Before any internal checking or repairs, make sure that the machine has been disconnected from the electrical system by locking it out:

- Accidental connection of the cable of a fixed system has been made impossible
- Cutting off by means of a fixed connection device relates to all poles (phase and neutral). It must be in the OFF position, with no possibility of being put into service by mistake

Some machines have an HV/HF arc ignition circuit (indicated by a plate). Never work inside such a box.

Any work on electrical systems must be carried out by persons qualified for that purpose (Decree 88-1056 of 14 November 1988, Section VI, Art 46).

Maintenance

From time to time, check that the machinery and its electrical accessories - connectors, flexible cables and extension cords - are correctly insulated and connected.

Work for maintaining and repairing insulating enclosures and ducts may not be carried out in a haphazard manner (Section VI, Art. 47 Decree 88-1056 of 14 November 1988).

- All repairs are to be carried out by specialists, or better yet, defective accessories should be replaced.
- Regularly check that the electrical connections are tight, with no heating.

Any fans placed in a circuit in which the air is laden with dust must be cleaned from time to time. That is because the turbine may be fouled and become unbalanced, leading to increased noise and premature wear and tear of bearings. Maintenance is required at least after every six months, depending on the type of dust treated.

The fan is an essential element of your extraction system.

Incorrect operating or inadequate maintenance could make the operating position less safe. That is why the fan must be maintained in perfect condition.

Your installation has been selected for a specific application. The turbine is characterised by an operating point based on extraction speed (speed of air in the piping) and head loss.

In accordance with the regulations of CARSAT and INRS, the system must be inspected from time to time to make sure that it continues to comply with its reference values.

PERSONAL PROTECTION

Risks of external injury relating to welding operations

Whole body

- The operator must be clothed and protected to suit the requirements of the job.
- Make sure that no part of the bodies of operators and helpers can come in contact with metal pieces or parts that are live or are liable to become live accidentally.
- Do not wind electricity cables around the body.
- Keep safety guards and panels in place.
- The operator must always wear personal insulating protection (Order of 14 December 1988, Section III).
- The protection must be kept dry to prevent electric shocks if it is wet, or ignition in the presence of oil.

Personal protective equipment worn by operators and their helpers - gloves, aprons, safety shoes - offer the added benefit of protecting them from burns due to hot parts, splatter and slag.

Make sure the PPE is in good condition and replace it before it ceases to offer protection.

Face and eyes

It is indispensable to protect the following:

- Eyes, from arc injury (dazzling due to visible light from the arc, and infrared and ultraviolet radiation).
- Hair, face and eyes from welding splatter and projection of slag during weld cooling

The welding mask, when used under or without a helmet, must always be equipped with a protective filter, the shade of which depends on the intensity of the welding arc current (Standards NF S77-104 A 88-221 A88-222).

The coloured filter may be protected from impacts and splatter by a transparent glass located on the front of the mask.

If the filter is replaced, use another one with the same part number (shade number).

Persons in the vicinity of the operator, especially any helpers, must be protected by means of suitable screens, anti-UV goggles or, if needed, masks with suitable protective filters (EN 139)

Specific case of chlorine solvents in welding: (used for cleaning or degreasing).

- The fumes from these solvents can be changed into toxic gases when subjected to arc radiation, including from a distance.
- Such solvents may therefore not be used in locations where electric arcs occur, if the solvents are not in a sealed enclosure.

Work in confined spaces

Examples:

- Mine roads
- Piping and pipelines
- Ship docks, pits, manholes, cellars
- Tanks
- Ballast tanks
- Silos
- Reactors

Special precautions must be taken before undertaking welding operations in such enclosures, where suffocating and poisoning and fire and explosion risks are very great.

A work permit procedure setting out all the safety measures must systematically be set up.

Make sure that ventilation is appropriate, paying special attention to:

- under-oxygenation
- over-oxygenation
- excess fuel gas

FILTRATION OF FUMES AND DUST

Important

Mechanical or electrostatic filtration systems are effective for the filtration of solid but not gaseous particles (exterior discharge).

If recycling is effective (not recommended), make sure the workplace where the machine or machines are placed is properly ventilated, so as to not reach the OELV (occupational exposure limit values) for the specific gaseous pollutants generated by the process (welding, cutting).

Field of use

Filtration of solid particles and dry dust, non-flammable gas, with no risk of explosion.

- Zinc, paper, flour, plant leaves, graphite, aluminium and other such dust is to be excluded, because electrostatic discharge or welding splatter would present a risk for those using the filter.
- The air flow through the filter medium must not be at a temperature above 80 °C.
- This machine is not designed for extracting chemicals.
- The choice of machine is made to suit the pollutants to treat. Extraction at source of the pollutant is only effective if the machine is operating at its nominal power (air flow at the nozzle).

Take particular care to:

- Not obstruct the air outlet of the machine.
- Not introduce external elements into the filter (paper, cloths, cigarette butts etc.)
- Replace the filter medium with new original **LINCOLN ELECTRIC** medium, which alone can guarantee the filtration characteristics.
- Replace the hoses if they are pierced.
- Regularly clean the metal pre-filter on those machines that have one



Never introduce incandescent particles into the extraction duct.
Example:

- Cigarette butts
- Burning paper
- Incandescent milling particles
- Plasma or air arc gouging particles
- Or any other incandescent product

List not comprehensive

C - OVERALL DESCRIPTION



For your safety and optimum performance, please read this manual carefully before using the filter.

ESSENTIAL grinding tables are designed for extracting **grinding** fumes. They have a hopper and a dust drum under the work surface.

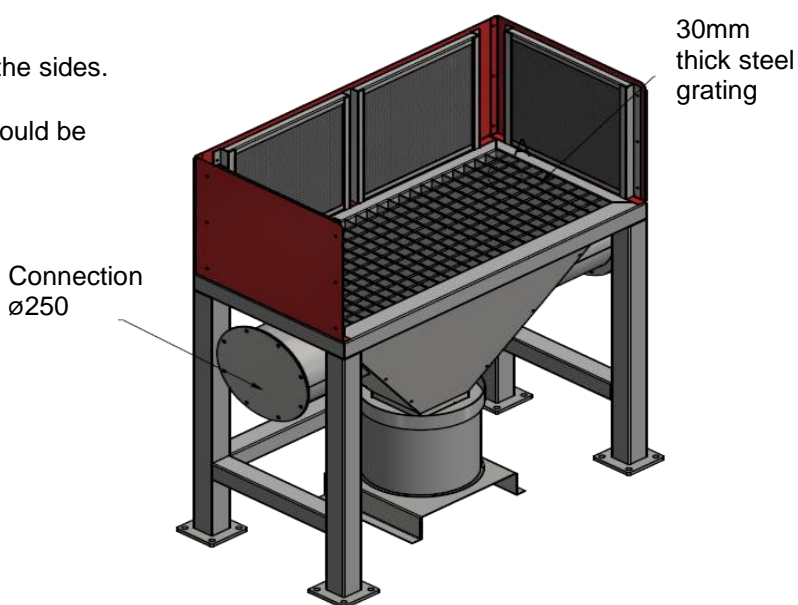
Metal dust and fumes are extracted by the work table; the particles are channelled by three side panels with metal pre-filters. The table will be connected to a duct system connected to a fan, with or without filtration (filtration recommended).

Discharge is via an outlet adapted at the rear or on the sides.

Under applicable legislation, the extracted fumes should be discharged outside the building.

It is available in three sizes :

- 1000 x 500 mm
- 1500 x 1000 mm
- 2000 x 1000 mm



Part numbers

ESSENTIAL 1000 x 500 mm down-draft table for grinding	EM61000373
ESSENTIAL 1500 x 1000 mm down-draft table for grinding	EM61000374
ESSENTIAL 2000 x 1000 mm down-draft table for grinding	EM61000375

Benefits :

- Monobloc table
- Rapid commissioning
- Multipurpose

Delivery :

The table is delivered ready to be connected to the duct system.

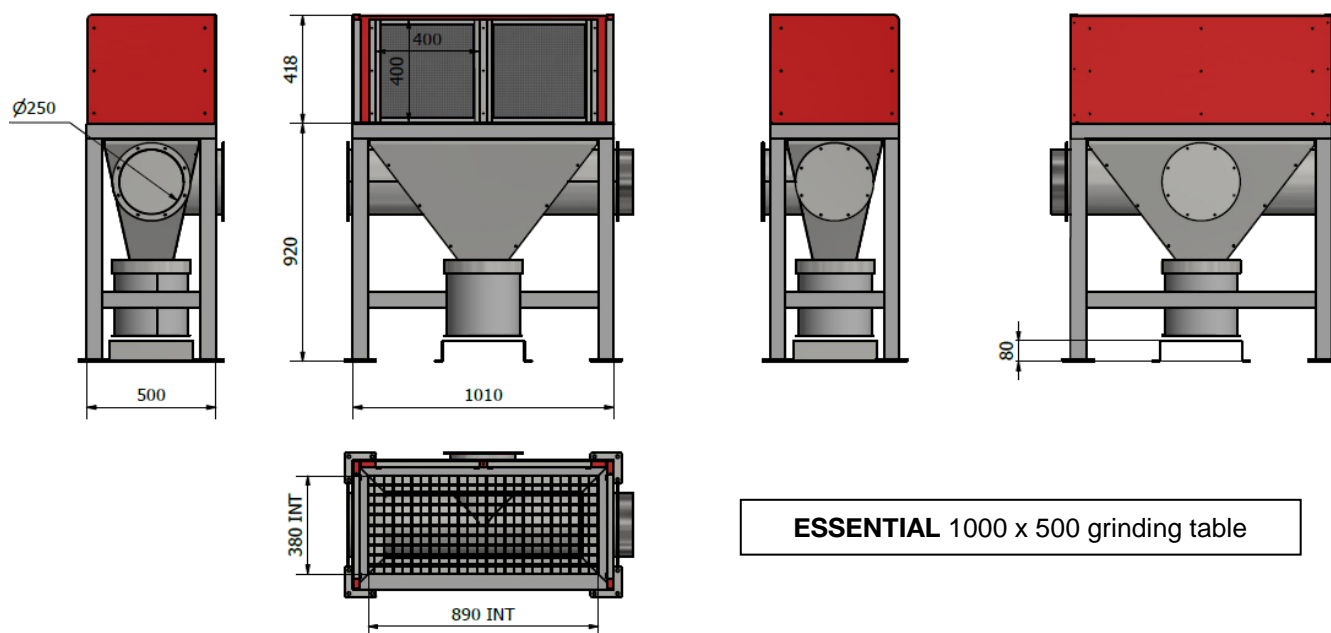
D - TECHNICAL DESCRIPTION

COMPOSITION OF ESSENTIAL TABLE

The table is made up of :

- Work surface 1000 x 500, 1500 x 1000 or 2000 x 1000 mm.
- Working height 920 mm.
- Max. load capacity of table: 200 kg.
- Height of side panels 420 mm.
- Metal pre-filters, size (400 x 400 x 24) mm.
- Dust drum at the bottom of the table - easy access for maintenance.
- Air outlet at the rear and on the sides of the table.
- Galvanised steel grating on the work surface.
- Overall dimensions (L x l x h) :
 - 1010 x 500 x 1340 mm
 - 1510 x 1000 x 1340 mm
 - 2010 x 1000 x 1340 mm
- The recommended extraction rate is :
 - 1800 m³/h for the 1000 x 500 table
 - 5400 m³/h for the 1500 x 1000 table
 - 7200 m³/h for the 2000 x 1000 table
- Head loss allowance 550 Pa.

DIMENSIONS OF ESSENTIAL GRINDING TABLE



Dimensions of ESSENTIAL 1000 x 500 grinding table

- Connection diameter : 250 mm
- Overall width : 1010 mm
- Overall depth : 500 mm
- Grating : 1390 x 880 mm

Dimensions of ESSENTIAL 1500 x 1000 grinding table

- Connection diameter : 355 mm
- Overall width : 1510 mm
- Overall depth : 1000 mm
- Grating : 890 x 380 mm

Dimensions of ESSENTIAL 2000 x 1000 grinding table

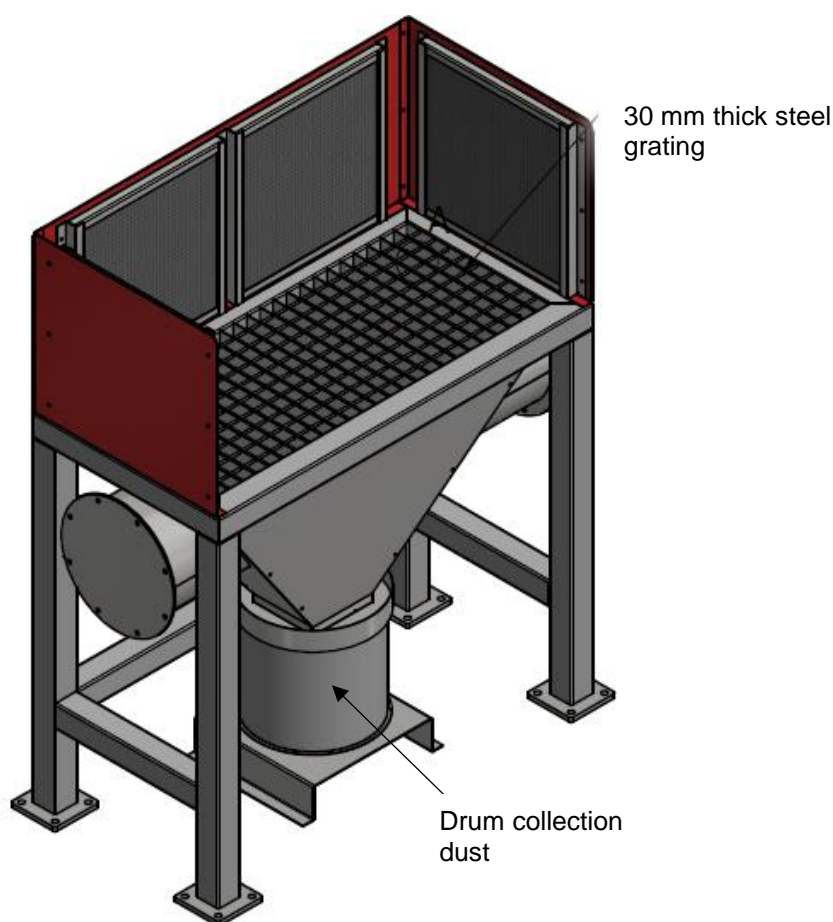
- Connection diameter : 400 mm
- Overall width : 2010 mm
- Overall depth : 1000 mm
- Grating : 1890 mm x 880 mm

OPERATING PRINCIPLE

The table may be used alone or incorporated into a centralised extraction system with outdoor discharge or a filtration system; extraction may be started as soon as the extraction system is started or via a manual or automated damper with the damper box unit and motorised damper (see section on "Connection options").

The table is connected through the rear or sides.

Metal dust is extracted by the work surface through the steel grating; heavy particles drop into the dust drum by decantation. The table has side and front panels that channel the metal particles generated by grinding operations. Metal pre-filters compliant with standard EU2 measuring (400 x 400 x 24) mm can handle incandescent particles.



E - INSTALLING THE ESSENTIAL GRINDING TABLE

MONTAGE

Move the table with a lift truck to its location, then remove the packaging and transport protection material. Connect the table to the air extraction duct using Ø 250, 355 or 400 mm, towards the outdoor environment or a duct system possibly connected to a filtration system.

F - MAINTENANCE

Please read the manually carefully before you start any servicing work. Maintenance operations may only be carried out by specialised and qualified individuals. Behaviour that does not comply with the safety instructions provided could lead to major hazards for personnel and damage to property and/or the surroundings.



All routine and/or exceptional maintenance must be carried out with the machine disconnected from the supply system.

Advice for machine users: maintenance is to be carried out as described in the manual.

1. Electrical risks
2. Cutting and abrasion risks in filter area.

Mind the maintenance of the electrical cabinet. Hazards are indicated by a plate saying "HAZARDOUS VOLTAGE".

In order to ensure the proper working of the machine, defective spare parts must be replaced with original spare parts from **LINCOLN ELECTRIC**.



Before starting up the machine, make sure that the replaced parts are perfectly installed and that the tools used are removed from the machine.

Make sure that each safety device is in good condition and legible.

MAINTENANCE OF MECHANICAL PARTS

The machine requires negligible mechanical maintenance if it is used correctly in accordance with its technical characteristics.

Before any type of maintenance that is not clearly defined in these instructions, please make inquiries with the technical department of **LINCOLN ELECTRIC**.

The performance of operations that may not be carried out or are contrary to the standards and procedures described in the manual would release **LINCOLN ELECTRIC** from liability for any damage caused and would void the guarantee if it is still valid

PRE-FILTER

For filter maintenance, always use protective goggles and a respiratory mask in order to prevent all risks of contact with or inhalation of the particles collected. The power supply must always be switched off using the disconnecter or via the fuses. If the filter has a power connector, it must be separated from its socket on the wall.



Pre-filter cleaning frequency ?

Maintenance depends on use.

We recommend inspecting the pre-filter after every two weeks at the start, while you determine the actual maintenance frequency.

Then you must inspect and clean the pre-filter every month.

PRINCIPLE :

To access the filter elements, please remove the grating and then the metal guard plate.

Cleaning the mechanical pre-filter?

- Use FILTERCLEAN cleaner, part no . W000342878.
- Dilute the FILTERCLEAN cleaner, part no . W000342878 (in 15 or 20%) water
- Leave for about 10 minutes.
- Clean with clean water, dry.



In no event may the machine be used without a pre-filter or with a pre-filter that is not the same as the original from LINCOLN ELECTRIC.

SPARE PARTS

Description	Part number
Metal pre-filter 400 x 400 x 24 mm	W000384370

Quantity per table:

- 4 for the 1000 x 500 table
- 7 for the 1500 x 1000 table
- 8 for the 2000 x 1000 table

CONNECTION OPTIONS

Description	Part number	Quantity
DAMPER BOX ESSENTIAL box	W000370749	1
Current clamp	W000379696	1
AZUR 3.0 1.1KW fan for 1000 x 500 table	W000342134	1
230V 3P circuit breaker - 1.1KW motor	W000342526	1
230V 3P disconnecting box - 1.1KW motor	W000342544	1
400V 3P circuit breaker - 1.1KW motor	W000342523	1
400V 3P disconnecting box - 1.1KW motor	W000342545	1
Adaptation for diam 250 mm fan outlet	W000342136	1
Floor stand or wall bracket for fan	W000342143	1
Motorised shutter, diam 250 mm	W000380489	1
D350B 3KW fan for 1500 x 1000 table	W000342611	1
230V 3P circuit breaker - 3KW motor	W000342527	1
230V 3P disconnecting box - 3KW motor	W000342534	1
400V 3P circuit breaker - 3KW motor	W000342526	1
400V 3P disconnecting box - 3KW motor	W000342538	1
Adaptation for diam 355 mm fan outlet	W000342715	1
Seat for D350 wall fastener	W000342716	1
Motorised shutter, diam 355 mm	W000379175	1
D560B fan for 2000 x 1000 table	W000342628	1
230V 3P circuit breaker - 4KW motor	W000342528	1
230V 3P disconnecting box - 4KW motor	W000342535	1
400V 3P circuit breaker - 4KW motor	W000342526	1
400V 3P disconnecting box - 4KW motor	W000342539	1
Adaptation for diam 500 mm fan outlet	W000342729	1
Seat for D560 wall fastener	W000342731	1
Motorised shutter, diam 500 mm	Please enquire	1
DIGIFILTER 2 CD for 1000 x 500 table	EM61000005	1
DIGIFILTER 6 CD for 1500 x 1000 table	EM61000011	1
DIGIFILTER 8 CD for 2000 x 1000 table	EM61000012	1

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