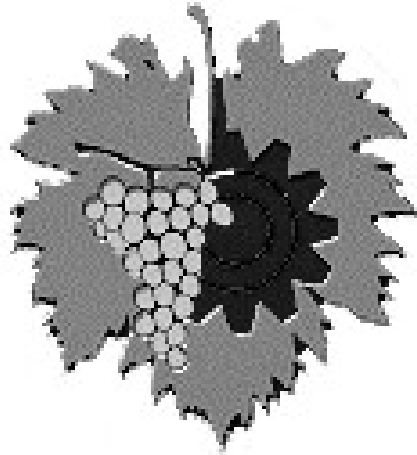


# ENOITALIA



*USER INSTRUCTIONS, INSTALLATION AND TECHNICAL MANUAL*

## SCREWCONVEYOR

### MODEL U 200/230/250

*ITALY*

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**WARNING:**  
*This manual should be kept near the machine in a place known to personnel responsible for operating, servicing and repairing the machine*

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## 2. CONTENTS OF THE MANUAL

*This manual contains all the information and diagrams/ drawings needed for installation, running and servicing the screw conveyor. It also sets out the safety regulations which personnel using the machine must observe.*

*This manual has been written for: Plant or Department Chiefs; Installation staff; Machine operators; Servicing staff.*



***Before using or repairing the machine, personnel must have read and understood the safety regulations contained in this manual. The manual is an integral part of the machine and must be made available for easy and rapid consultation. The manual should be stored in a suitable place far from potential sources of damage.***

***Specifically:***

- ***store it in a clean, dry place and notify all personnel for whom the manual is intended of its whereabouts***
- ***do not attempt to rewrite part of the manual.***

This manual is strictly pertinent to machines U200; U230; U250, both in the steel and stainless steel versions seeing as they are similar machines of different sizes.

## 3. SAFETY REGULATIONS



**NON-OBSERVANCE OF THESE REGULATIONS MAY CAUSE ACCIDENTS TO PERSONNEL AND DAMAGE TO THE MACHINE**

Before commencing any operation on the machine read the instructions in the manual, supplementing the regulations specified herein with those required by current legislation on safety and accident prevention. The moving parts of the machine can cause serious injury – operators should therefore pay the utmost attention when the machine is running. In addition, placing the machine in a damp area may be a source of accidental electric discharge caused by the electrical contacts of the motor.

Enoitalia s.r.l. therefore declines all responsibility in the case of:

- use of unsuitable electrical systems for operating the machine
- use of the machine in unsuitable environmental conditions
- failure to observe the installation, use and servicing instructions contained herein
- use of the machine by unauthorised, unqualified staff
- unauthorised modifications to the machine

**The machine has been designed specifically for the purpose indicated in the manual. Enoitalia s.r.l. declines all responsibility for any use of the machine other than that for which it has been designed.**

## 4. THE MACHINE

### 4.1. WARNING:



- The conveyor supplied must be used exclusively for processing the product described in this manual.
- Do not commence assembly of the conveyor or start it up before reading this manual.
- Do not turn on the conveyor if one or more of the warning signs are damaged or missing.
- Do not turn on the conveyor if the machine is vibrating abnormally or if the protective guards supplied have not been attached.
- Do not perform servicing, dismantling or cleaning operations before the machine has come to a complete standstill and the electricity supply has been turned off for several minutes.
- Do not turn on the machine if the electric motors or frame are cracked. Check at least once a year that the various components are properly attached and if necessary tighten any loosened nuts or bolts.
- Check that the voltage of the circuit which the motor control panel is connected to corresponds with that of the motor cables.
- Do not try to operate an overheated motor but leave it to cool down to room temperature.
- Allow only experienced personnel to start up, clean or service the machine.
- Do not start up the motors if the rotating elements do not turn freely.
- Use harnesses to raise the machine and make sure that these are suitable for the weight to be lifted.
- Wash the machine with non-toxic products designed for use with food stuffs only.
- This manual must stay with the machine at all times, any reproduction of the same, even partial, is strictly forbidden.

### 4.2. DESCRIPTION

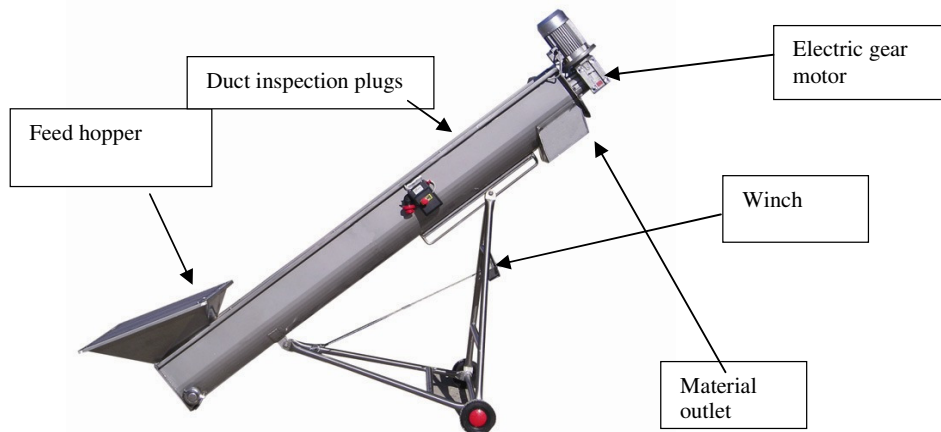
Model U is a screw conveyor with a U-shaped tubular section and flanged gear motor at the top. It is a machine which is suitable for numerous agricultural and industrial applications where material needs to be transported horizontally or vertically. It can be made to the user's requirements; varying in length and diameter, with different motors depending on the type and hourly quantity of material to convey, with or without a feed hopper acting as a collector and tank for the screw. The screw has not been constructed for purposes other than that indicated on the order form.

The Manufacturer will not be held responsible for any damage caused to the mechanical and electrical parts of the system and declines all responsibility for any injury deriving from unforeseen use.

The models which this manual refers to differ solely in the types of material used (painted steel, stainless steel), the diameter of the inner screw-coil and the length, which may vary, the functioning of these models being identical.

The machine is composed of the following parts:

- 1) **Feed hopper**, where the material to be conveyed is placed, inside it is the "bare" part of the screw conveying the material inside the conveyor duct.
- 2) **Conveyor duct**, its presence inside the screw allows the material to be conveyed all along its length as far as the outlet.
- 3) **Outlet**, this is where the conveyed material comes out, it may be rectangular or circular.
- 4) Electric gear motor **with separate control panel complete with emergency button and cable. The user's electrical system must comply with current legislation and bear in mind the maximum power draw foreseen for the machine.**



**Figure n.1 Description of conveyor U200**

A protective safety grill (supplied with the machine) must be placed on top of the hopper. This guard is to prevent access of the arms to the functioning area of the screw but is sufficiently wide to allow the passage of the material into the hopper below.

**The Conveyor** is intended exclusively for performance of the following operations:

- gathering the material into the feed hopper
- conveying the material along the duct to the outlet and from there to the collection bin.

*We recommend that the user assess the suitability of the premises where the machine will be positioned by posing the following questions: is the machine easy to access from all sides and can the emergency button positioned on the conveyor duct be reached? Is there at least one metre of room around the machine, Is the machine obstructing the passage of forklift trucks or other means of transport? Is the floor which the machine is placed on able to withstand its weight when full? Does it have an inclination of more than 10%?; Is exposure to the noise of the machine distributed among the operators so as to fall within the limits foreseen by current legislation? Are the temperature, humidity and magnetic fields going to damage the machine? Will they allow it to function correctly? Is the lighting sufficient for optimal performance of activities?*



Any changes to the conditions of use of the machine, either in terms of the products processed or of the operations performed, relieve the manufacturer of any responsibility in that a new commissioning must be performed pursuant to Directive 98/37/EC.

## 5 SAFETY GUARDS AND ACCIDENT PREVENTION

### 5.1. GENERAL REMARKS

The machine is designed so that the moving parts of the transmission gears and motor are protected by casings for the purpose, preventing direct contact with the operator. The machine is also provided with a safety grill (figure 2) which must be attached to prevent unintentional contact of the rotating part (screw) with limbs or tools, but to allow transit of the product.



**Do not put your arms or any tools inside when the machine is on.**

The employer, or person in charge of the company using the machine, must make sure that all personnel responsible for using it have been informed of the safety regulations relative to use of the machine and must provide all the information necessary for safe use of the same.

Specifically they must check that:

- the machine has not been tampered with or modified
- the machine is used for the purpose specified in this manual
- the machine complies with its original configuration
- the safety regulations foreseen by current legislation and those indicated specifically herein are observed

From an analysis of the risks (conducted in conformity with the Machinery Directive 98/37 EC) connected with use of the conveyor it emerged that the main risks are as follows:



**Figure n.2 DANGER SYMBOLS AND PRECAUTIONS**

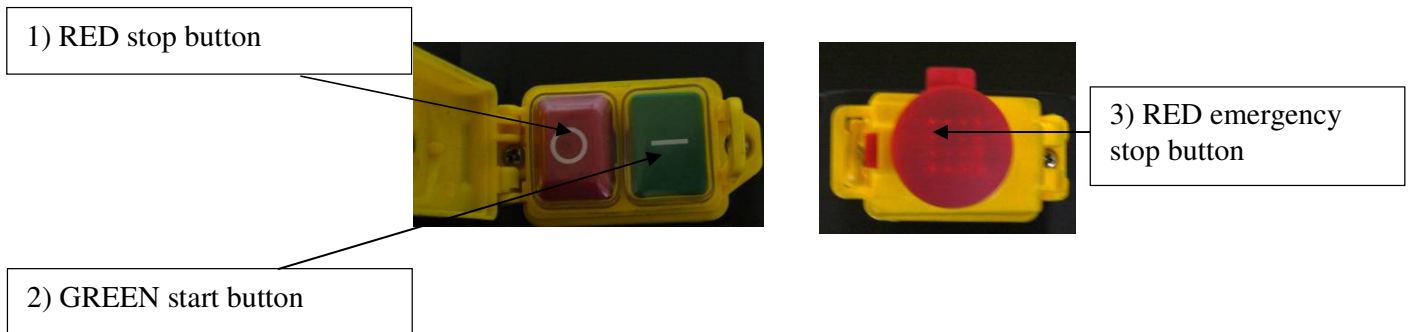
**Do not remove safety devices-Do not repair or adjust while in movement-Protective gloves obligatory-Protective footwear obligatory**

## 5.2. ELECTRIC EMERGENCY STOP BUTTON

The machine is provided with an emergency stop button which immediately cuts off the electricity supply to the motor.

Two emergency systems are provided:

For the three- phase motor there is a:



Crushing and/or shearing of upper limbs	Conveyor screw Transmission organs	Do not remove the safety guards Stop the machine or disconnect the plug from the mains when cleaning or servicing. Do not repair when the machine is on.
Shearing of lower limbs	Falling of the machine	Use protective footwear Make sure the machine is stable
Electrocution following contact with live parts. Fire Hazard	Electric motor	Check that the mains voltage is compatible with the specifications on the motor data plate Check the condition of the electrical cables Protect the motor from damp Only allow qualified personnel to perform repairs of the electrical system

**TABLE 1:** General risk summary table

## 6. INSTALLATION

### 6.1. PRELIMINARY INSPECTION

After unpacking the machine check that it is in good condition, if necessary informing the manufacturer of any evident defects. Notify Enoitalia s.r.l in writing of any defects found within a fortnight of receiving the machine.

Check that the machine corresponds to the order specifications.



**When moving the machine, observe safety regulations on the movement of goods. If using automatic hoisting devices, check that the weights are correctly balanced.**

Dispose of the packaging as required by current legislation.

### 6.2. POSITIONING

When positioning the conveyor consider the aspects mentioned above in relation to the choice of site.

The conveyor U200/230/250 must be assembled on site according to the installation specifications.

The screw should be positioned on a flat surface in the foreseen position using appropriate hoisting apparatus.

If supplied with a wheeled carriage, push the screw to the desired position after raising it slightly from the ground, block the wheels of the carriage using wedges, adjust the jack to the desired height using the winch, then block the winch using the clasp provided.

The screw inlet should be positioned near the material to be loaded or inserted inside it the collection tank if provided.

The motor should be connected to the electrical system.

**Warning:** check the direction of rotation of the coil inside the screw.

## 7. WASHING AND CLEANING THE MACHINE FIRST INSTALLATION.

Wash the machine thoroughly to eliminate any manufacturing residues and the dust which has built up on the surface, taking care not to wet the electrical parts and keeping the power supply cable disconnected.

If the electrical parts do get wet, dry them fully before starting up the machine.

To wash the machine fully unscrew the inspection plugs covering the conveyor duct.



**NEVER PERFORM THIS OPERATION WITH THE MACHINE ON.**

## 8. ELECTRICAL WIRING

Before connecting the plug of the motor to the mains check that the voltage of the motor corresponds with that of the mains.



**The electrical safety of the machine is only ensured if it is connected to an efficient earthing system, wired according to current electrical legislation.**

Inspection and any installation of appropriate electrical components must be performed by qualified personnel.

The use of multiple sockets or adaptors is not recommended; should use of the same be indispensable use only products corresponding to current safety legislation, observing the capacity limit in terms of current and maximum power. Use a cable of 1.5mm section for extension leads of up to 20 m, and 2.5 mm for longer leads.

## 9. STARTING UP AND STOPPING



**Before starting up the user should make sure that there are no impediments obstructing movement of the mechanical parts and, above all, make sure that nobody is in the vicinity of the parts about to move; specifically that nobody has their hands, arms or other parts of the**

**body near the feed hopper and/or outlet.**

- Check, in addition, that the voltage of the motor corresponds with the mains.
- Check that all the safety guards are correctly installed on the machine.
- Check that the emergency stop button works properly.
- Check that there is a complete view of the system from the command panel so as to: prevent start-up in potentially dangerous circumstances, check the correct functioning of the machine, promptly intervene in case of need.

If this preliminary inspection should reveal problems or prove negative, stop the machine, disconnect the plug from the mains, notify the department chief, the supplier company, if applicable or Enoitalia s.r.l.

Should this preliminary inspection be successful, proceed as follows:

- *press the button on the control panel of the electric motor and the machine will start.*
- load the material to be conveyed through the safety grill.
- the helical screw inside the machine rotates on its axis and as it moves shifts the material forward along the tube. The material is pushed as far as the outlet where it falls freely into the collection bin provided.
- to stop the machine, press the red emergency button.
- to start the machine, release the emergency button and start up the machine again

Should work need to be done on the inside of the machine body (obstructions or foreign bodies) proceed as follows:

1. turn off the machine and disconnect the power supply cable
2. use a tool to remove the foreign body and, if necessary, open the machine
3. close any parts opened and repeat the steps described for start-up.



**Do not put your hands, feet or tools in the machine when it is moving**

## 10. WASHING AND SERVICING

After using the machine and in any case at the end of the day's work, remember **to disconnect the electricity supply by turning off the mains switch and removing the plug from the socket**. This operation is essential to prevent accidental start-up of the machine which could cause damage to the machine itself or injury to persons.

After disconnecting the machine from the electricity supply, wash it to remove any processing residues, taking care not to wet the electrical parts.

*To wash the machine thoroughly, open it and remove the inspection plugs situated along the duct. After washing, if the machine is to remain inactive for a long period, lubricate as follows:*

- grease the chains and moving parts
- lubricate the gears , bearing supports and Teflon supports
- regularly check the oil level in the gear motor where present.

*Correct performance of the servicing as above makes the components subject to wear last longer. To improve maintenance operations we recommend recording the date and type of operation performed.*



**All servicing must be performed by qualified, authorised personnel or directly by Enoitalia s.r.l.**

The electric motor may in no case be dismantled. In case of need contact the supplier or Enoitalia s.r.l.



Should repair operations be necessary use original spare parts ordered from the retailer or directly from the manufacturer.

**The use of non-original spare parts without authorisation from Enoitalia s.r.l, will lead to lapsing of the warranty and of the Declaration of Conformity of the machine.**

## 11. TROUBLESHOOTING

<i>PROBLEM</i>	<i>REMEDY</i>
The machine has difficulty starting	Check that the power supply voltage is correct Check that there are no obstructions.
The machine will not start	Check that the machine is plugged in. Check that there are no obstructions.
The solid material remains in the screw and is not moved away.	Check the direction of rotation of the coil; Reduce the inclination of the screw if possible.
The gear motor overheats.	Check the oil level Check that there are no obstructions.
The material conveyed is less than expected.	Check that there are no obstructions. Reduce the inclination of the screw if possible.

## 12. TECHNICAL FEATURES

The data plate on the machine shows the identification details of the manufacturer and of the machine.

	U 200	U 230	U 250
Measurements LxDxH mm *	3000x700x400	3000x700x400	3000x800x450
Weight *	130 kg	150 Kg	180 Kg
Speed *	200 g/min	200 g/min	200 g/min
Electric motor *	2 hp (1.5 kW)	2hp (1.5 kW)	2.5 hp (1.8 kW)
Motor speed	1400 rpm	1400 rpm	1400 rpm
Electric voltage and frequency	380V -50 Hz	380V -50 Hz	380V -50 Hz
Functioning temperature	4C°-50 C°	4C°-50 C°	4C°-50 C°

\*These features may vary depending on the various product features, hourly quantity to be conveyed and distance to be reached.

**Noise:** Leq weighted A 78.9-83.8 db. (measured in an outdoor environment in normal working conditions , according to the method indicated in UNI EN ISO 11202) below the limits foreseen by 2006/42 EEC legislation (<85dB)

### 13. WARRANTY



The machine is covered by a warranty for 12 months from the date of commissioning. In the absence of immediate use the warranty applies for up to 18 months from the date of delivery and then lapses.

The warranty does not cover transport of the machine, which is the purchaser's responsibility, and lapses in the event of use not in compliance with the instructions of this manual.

Repairs are understood to be ex our Cerreto Guidi plant (FI); they do not include transport which is the purchaser's responsibility.

Defects dependent on the following are excluded from the warranty and will entail the cessation of any obligation:

- incorrect installation
- tampering with the machine
- inexperience, lack of servicing, untimely notification of defects
- failure to observe the provisions of this instruction manual.
- repairs by personnel not authorised by Enotalia s.r.l.
- transport damage which cannot be traced to manufacturing or packaging defects
- installation and use in electrical systems other than those indicated in the manual and on the data plate on the motor
- transports costs and risks in the case of forwarding the machine to authorised servicing centres
- consumables and ordinary servicing costs present in this manual.

The warranty does not extend to cover compensation of damages to persons and or things deriving from use of our product, even if in the case of the breakage or defect.

Failure to honour the agreed terms of payment will entail immediate lapsing of the warranty.

Any complaints should be notified by the purchaser within 8 days of purchase, in writing, to ENOTALIA s.r.l.

Retention of ownership: as provided for by articles 1523-1524 and following of the civil code, the transfer of ownership of the goods on sale will be subsequent to complete payment of the agreed sum.

The competent court for any dispute arising in relation to this contract is the court of Florence. Even in the case of foreign citizens or goods supplied abroad, any dispute will be regulated by Italian law.

# EC Declaration of Machinery Conformity

Manufacturer and seller of the machine

ENOITALIA s.r.l.  
Via Prov. Pisana, 162 Cerreto Guidi (Fi)

MODEL

**U 200**  
Screw Conveyor  
Serial number 0920

Year of manufacture: 2009

The undersigned company hereby **DECLARES** at its own responsibility that the machine which this declaration refers to complies with the provisions of :

- Directive 2006/42/EC (machinery directive) and subsequent modifications and national dispositions of enactment.
- Directive 2006/95/EC (low voltage directive) and national dispositions of enactment.
- Directive 2004/108/EC (electromagnetic compatibility directive) and national dispositions of enactment.

The machine also complies with the Harmonised Standards  
UNI EN : 349; 954/1; 1050; 547-1-2-3 ; 894-1-2-3 ; 953; 981; 1005-1-2-3-4-5; 1037.  
UNI EN ISO: 3744; 7000; 12100-1-2; 11202; 11205 ; 11688-1-2; 14121-1; 13857;  
UNI EN ISO 1186.  
Technical standards and specifications CEI EN 60204/1.  
National technical standards and specifications: UNI ISO 1819; UNI ISO 7149;  
UNI 7544; 45020; 60447; 60447.

Cerreto Guidi 01/01/2009

The Manufacturing Chief

Falorni Fabio

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