

USER GUIDE / MANUAL

BELT CONVEYOR L=2000, B=400, H=900 MM WITH IMPREGNATING DEVICE



Serial No.:	1003
Project No.:	4.508.000.000
Year of manufacture:	2022
Manufacturer	SANIKOM d.o.o.

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Before use, setting or maintenance, carefully read the instructions!

1. INTRODUCTION - GENERAL INFORMATION

1.1 PURPOSE OF THIS MANUAL

The manual accompanying the machine purchased is provided by the manufacturer. Information given is intended to professionally qualified persons, i.e. having the necessary knowledge (expertise, knowledge related to health and safety in the use of work equipment etc.) and abilities.

The user guide includes the presentation of the use of equipment and contains all information necessary to ensure the safe and proper use.

Taking into account and following the manufacturer's instructions, norms and standards is a warranty (guarantee) for the safety of personnel and the machine, its economical use and long life.

Individual notes or warnings are written in bold and marked with symbols!



NEVARNOST

DANGER

**Mandatory adherence to manufacturers' instructions.
Failure to do so may result in injury or death!**



OPOZORILO

WARNING

Warning of a situation that may arise during the lifetime of the product, system and which may present a potential risk of injury to personnel or property, environmental damage and economic losses.



POZOR

CAUTION

A caution that should be taken into account to prevent serious damage to the machine and personnel etc.



INFORMACIJA

INFORMATION

Important information!

Some of the information and illustrations in this manual may differ from your machine. Thereunder are given the specific information that is exclusively applicable to your machine.

1.2 MANUFACTURER

1.3 IDENTIFICATION OF THE MACHINE

Basic data of the machine are marked (embossed) on the identification plate of the machine as follows:



INFORMACIJA

INFORMATION

When ordering for instance a spare part, always provide in addition to the basic data as regards the spare part the above technical information (name of the machine, serial number and project number)!

1.4 RECOMMENDATION TO THE CUSTOMER

The instructions include all maintenance procedures. Do not perform maintenance or other operations which are not listed in this manual.

Strict adherence to these instructions is essential for safe use of the machine and its longevity.



INFORMACIJA

INFORMATION

Use and maintenance of the machine should be performed only by qualified personnel having read and understood the instructions!

2. DESCRIPTION OF THE DEVICE

2.1 DEVICE SPECIFICATIONS

2.1.1 TECHNICAL DATA

Dimensions: (mm)		Length	Width	Height
Belt conveyor		2.000	400	900
Impregnating device		300	606	350
Power:	2 x P = 0,11 kW			
Supply voltage:	220 V			
Frequency:	50 Hz			
Compressed air:	6 bar			

2.1.2 PURPOSE OF USE

Belt conveyor with impregnating device is designed to impregnate a tube with an epoxy resin, being watered before insertion into the sewer and different pipe systems.

2.1.3 COMPOSITION

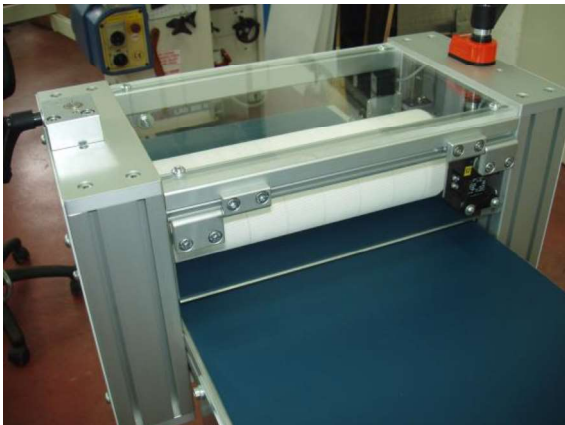
Belt conveyor of 2,000 mm in length and Al-performance is positioned at the base of aluminum profiles. The belt of smooth green and blue PVC is run by a cylinder with a built-in motor (Interroll Drum Motor 113S). The frequency converter enables adjusting the speed of the belt conveyor and impregnating cylinder.



Belt conveyor

The impregnating device installed above the conveyor enables impregnating the tube with the resin. It is composed of a drive cylinder with a built-in motor (the same as the conveyor). The two cylinders are mutually synchronised at the same speed. The height of a cylinder can be adjusted up to 45 mm manually with the lever. The set level is fixed by a screw with a lever mounted on the other side of the rotatable lever. The counter indicates the set height of the cylinder, i.e. a 1 turn = 5 mm. The cylinder of the impregnating device is protected by ribbed belt, thus providing better results of impregnating tubes with resin. The impregnating device is protected by a plexiglass. Double doors of the impregnating device are protected by a safety switch with the function to stop the cylinder in the event of them being opened during operation. The belt and the impregnating device are activated through the foot switches “FORWARD / BACKWARD”.

On the other side of the conveyor is mounted an auxiliary containment cylinder, enabling to retain the resin in the pipe in the area of the conveyor. The free-rotating cylinder can be raised and lowered by means of pneumatic cylinders through the manual lever valve. It is possible to adjust the retention force with the pressure regulator.



Impregnating device



Containment Drum

2.1.4 FUNCTIONNING MODE

Insert a connection cable with plug from the electrical box into a 220 V outlet and switch on the main power. The conveyor with impregnating device is ready for operation.

Insert a tube between the impregnating device and the conveyor, then by adding an epoxy resin and turning the conveyor and impregnating device a tube is being impregnated.

The size of the gap can be adjusted manually with a lever. The counter indicates the set height of the cylinder, i.e. a 1 turn = 5 mm.

The belt and the impregnating device are activated through the foot switches “FORWARD / BACKWARD”.

Any other use (which would be contrary to the technical characteristics) is considered to be non-applicable and such use is strictly prohibited!

The plan No. 508000000 applies to the device.

2.1.5 ELECTRICAL CONTROL EQUIPMENT



General:

The electrical equipment for control and management of the system consists of:

- a) Main cabinet 300x300x150
- b) Control line

a) Main control panel

The main control panel includes all the necessary safety, energy and control equipment, i.e. fuses, circuit breakers, Miniature Circuit Breakers (MCB), safety relays etc. (safety equipment elements) and switches, contactors (energy equipment elements).

c) Control line

The control line takes place between the main control panel and the sensors.

2.2 WORKING AREA - ZONE



WARNING

The device is being used by more than one person at the same time! Danger area of operation is protected by a protective cover.

2.3 NOISE (AND VIBRATION)

MEASUREMENTS OF SOUND PRESSURE LEVEL:		
- In accordance with the Rules on the protection of workers from risks related to exposure to noise in the operation (Official Gazette RS, no. 7/01)		
<i>Working area-zone</i>	<i>Equivalent of continuous A-weighted sound pressure level - L_{aeg} dB (A)</i>	<i>Peak sound pressure level - L_{peak} dB (C)</i>
Noise caused by belt conveyors is less than 75.0 dB in the area of operation.		

2.4 DUST EMISSION

Belt conveyors do not generate emissions of dust or gas.

Different symbols for different types of hazards and tips. Learn the meanings of these symbols and carefully read their explanation as to ensure safe operation of the machine

3. SAFETY CONCEPT

3.1 SAFETY SYMBOLS AND PRECAUTIONS



Before use, adjustment or maintenance, carefully read the following instructions!



DANGER

Mandatory adherence to the manufacturers' instructions. Failure to do so may result in injury or death!



WARNING

Warning of a situation that may arise during the lifetime of the product, system, and which may present a potential risk of injury to personnel or property, environmental damage and economic losses.



CAUTION

A caution that should be taken into account to prevent serious damage to the machine and personnel etc.



INFORMATION

Important information!

Some of the information and illustrations in this manual may differ from your machine. Thereunder are given the specific information that is exclusively applicable to your machine.

3.2 SECURITY DEVICES AND MECHANISMS



INFORMACIJA

INFORMATION

3.2.1 SAFETY DEVICES

Correct and faultless operation of safety devices is a prerequisite for safe usage.

A. Belt conveyors are designed so as to avoid openings that could pose a danger of moving parts.

3.2.2 SECURITY MECHANISMS

1. Control

Start and stop is performed with main switch of the electrical cabinet. During normal operation the operator cannot get into the danger zone of operation.

The STOP safety latch button mounted on the electrical box, if activated, stops the conveyor and impregnating cylinder in operation. To restart the conveyor release the pressed STOP switch and restart the safety circuit in the electrical control cabinet.

2. Conveyor belt, drive belt

The width of the conveyor belt stretching towards the housing is such that there are no gaps that could pose a danger to the operator.

The belt is protected by a protective cap, which cannot be removed without tools.



POZOR

CAUTION

Prior to re-start it is necessary to identify and eliminate the cause of the emergency stop!

3. Uncontrolled blackout

In the event of an unexpected power failure, the current change and the reconnection of the power supply the control of the system in place prevents dangerous situations by:

- Disabling the automatic restart
- Indicating malfunction
- The re-start is possible from the starting point in accordance with the prescribed protocol

4. Risk of fire and explosion

Risk of fire or explosion is minimal.

5. Voltage

- Protection against over-voltage contact

The device is protected against direct and indirect contact in the event of over-voltage contact.

By connecting the exposed parts of the device to the protective conductor and the main potential equalisation the automatic disconnection of power supply is provided. Protective conductors are of yellow-green colour. All of the protective conductors should be connected to the grounded busbar of the distribution boards.

Automatic cut-off in the event of fault current is carried out by overcurrent protective device (fuses, MCB ...). When an error occurs, the installed disconnecting device automatically cuts the power supply to the part of the installation protected by the device.

The protection control against electric shock is necessary to carry out by means of measurements as well as later with periodic inspections and measurements.

As an additional safeguard, low voltage 24V applies.

- Protection against any accidental contact with live parts

The protection is provided with the correct choice of equipment installed on the machine and the corresponding distribution box properly closed and accessed only by authorised personnel. The cables are inserted into the protective tube or appropriately located in order not to be subjected to mechanical damage.

Any non-insulated part of the distribution box (terminals, switches ...) should be covered with insulated material.

- Protection of cables against short circuits

The protection against dangerous short-circuit currents is provided with appropriate protection of circuits in all distribution boxes, as shown in the wiring diagram.

- Protection against overload

The overload protection is provided with the correct choice of cable cross section according to the current load and the selection of installation of fuses, relays and bimetal thermal circuit breakers.

- Protection against incorrect use of switches

All switches of the machine are marked with name tags in order to avoid wrong activation of switches.

3.3 RECOMMENDATIONS AND TIPS FOR SAFE OPERATION AND MAINTENANCE

3.3.1 GENERAL RECOMMENDATIONS

Machines are considered less hazardous. However, do not underestimate the danger;
Safety devices should not be excluded!



WARNING

Use only original spare replacement parts. Electrical components should be the same as those shown on the wiring diagram (Bill of Materials)!

Arbitrary equipment processing without the written consent of the manufacturer is not allowed.

By violating this warning the warranty expires and also the responsibility of the manufacturer for safety!

3.3.2 SAFETY REGIME IN THE WORKPLACE

1. Wear prescribed protective equipment.
2. The room where the appliance is installed should be clean and well lit.
3. Regular cleaning of floors should be provided.



OPOZORILO

WARNING

NEVER CLIMB ON THE MACHINE!

After every operation that requires dismantling of protective elements, they should be re-installed and their operation verified. We should make sure that no element is left. During the process of replacement or settings personal protective equipment should be used.

3.3.3 SECURITY ARRANGEMENTS DURING THE OPERATION

- Always take care of properly installed protection elements and functionality of them
- Never use pieces that are not intended for this device

3.4 PERSONAL PROTECTIVE EQUIPMENT

- Use of personal protective equipment as instructed by the investor

4. TRANSPORT, INSTALLATION (AND STORAGE)

4.1 LIFTING - INTRODUCTION

Manipulation during load lifting should be performed only by qualified personnel!



NEVARNOST

DANGER

At the time of loading or unloading avoid any vibration. Standing under a raised load is strictly prohibited!

4.2 LIFTING



NEVARNOST

DANGER

Lifting of equipment:

A Use a forklift with suitable long forks!

Insert forks - slow and careful manipulation, without fluctuations;

- The machine is placed down on the prepared place;



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To lift, transport or re-transport use appropriate holes, grooves or transport media, which are intended for this purpose.

4.3 INSTALLATION OF APPLIANCES

Remove the protective coating with environmentally friendly detergent. Do not use a colour melting cleaning agent!

The place where the machine is installed should be a suitable working area and near the corresponding energy installation.

Recommended intensity of light is approx. 500 lux.

Proper installation and safe use of the device is provided once the machine is fixed to the surface with screws.

5. CONNECTION TO THE POWER SUPPLY

5.1 POWER CONNECTION



DANGER

Connecting the machine to the power supply should be carried out only by a qualified electrician!

Connection is carried out by a cable with plug for 220 V socket with the minimum section of $3 \times 1,5 \text{ mm}^2$. If the cable is longer than 20 m, the voltage drop should be calculated and thus correspondingly increase the cross section. Connect the yellow-green grounding conductor with a copper protective strip labelled PE. Connection should be carried out with the help of cable lugs, washers and locking washers. The connection should be metal pure and suitably bolted to provide good conductive properties. Re-install protection against accidental contact.

Connection to the power supply $3 \times 400/230\text{V}$ 50Hz with a maximum tolerance of $\pm 5\%$.

Supply cable should not be placed near (min. length 50 mm or more) elements of control (controller, computer or similar), signal lines and other control equipment. The supply cable can cross water supply (if nothing else) only at an angle of 90 degrees. Feeder cables should be mechanically protected with a grounded steel pipe.

6. SETTING AND REPLACING

6.1 SETTING

Adjusting the height of the impregnating cylinder is performed manually with a lever. The counter indicates the set height of the cylinder, i.e. a 1 turn = 5 mm.

Setting the restraining forces of the restraint cylinder is carried out with a pressure regulator installed below the conveyor.

Setting the speed of the conveyor and impregnating cylinder is carried out with a frequency regulator installed in the control box.

6.2 REPLACING

Replacing the device is not provided.

7. CONTROL



WARNING

Prior to the regular operation immediately after the connection to the power supply, it is necessary to carry out and record the electrical measurements to prevent any threat in the event of accidental touch. The same measurements should be carried out after any major repair intervention or at least once a year at the time of the periodic inspection.

The system can be operated by several people who are familiar with all the dangers of the movement and operation of the entire machine. Getting closer to the danger zone is prohibited!

8. MANIPUALTION OF THE DEVICE



CAUTION

During the break or in the event the machine not in operation it should be disconnected.



CAUTION

Before starting the machine, it is necessary to make sure that there is no prejudice to a third party within the enclosed area. We should also make sure that our body parts are not in the danger zone, thus preventing the possibility of damages.

9. MAINTENANCE

9.1 GENERAL

After the end of each working day carefully clean the machine and work area.



NEVARNOST

DANGER

Interference with the electrical installation should be performed only by qualified personnel.

9.2 CHECKLIST



POZOR

CAUTION

It is designed for the inspection of the machine and the device. Checks required are described in the table below.

See the manufacturer's documentation attached to the manual.

9.2.1 CHECKLIST

Type of inspection	Type of activity	Location of inspection	Execution mode	Contractor	Note	Instructions
Daily	Review of the functionality	- Complete device	Visual	Operator	Before starting the device	
Daily	Cleaning	- Complete device, - Security devices		Operator	After device stops	
Weekly	Check	Complete device	Visual	Maintenance agent		
Annual or after 4,000 working hours	Review Check of belt	Belt conveyor		MANUFACTURER or SERVICE PROVIDER		
Annual or after 4,000 working hours	Service	Complete device		MANUFACTURER or SERVICE PROVIDER		

9.3 CAUSES OF DAMAGE AND REPAIR

ELECTRIC

DEVICE DOES NOT WORK	
Cause of failure	Intervention
Motor does not rotate in the right direction	Rotation of the conveyor backwards. Replace phase connections - U and V.
No rotation of the motor	Switch off the motor protection. Verify the settings (motor current), eliminate a mechanical error (too much torque on the motor shaft).

9. SPARE PARTS CATALOGUE

10.1 MACHINING PARTS

- 10.1.1 ASSEMBLY DRAWINGS OF CONVEYOR: 508,000,000
- 10.1.2 PNEUMATIC DIAGRAM 508,000. PMSH

10.2 ELECTRICAL PARTS

See electrical project!

11. CATALOGUE OF MARKINGS

Identification plate of the machine:

Markings of the electrical equipment:

Markings of sensors, valves, motors, etc.:

Example:

Tension markings in the electrical cabinet:



Marking on the electrical cabinet and connections:



Marking on the movable parts:



12. EC - DECLARATION OF CONFORMITY
ANNEX: page 20

DECLARATION OF CONFORMITY

In accordance with the Machinery Safety Rules
(Official Gazette of RS, št.75/08)

Manufacturer:

SANIKOM d.o.o.

Manufacturer address:

Vrtna ulica 39, 4294 Križe, Slovenia

I declare with full responsibility that the machine

**CONVEYER BELT L = 2000, B = 400, H = 900 MM
WITH THE IMPREGNATING DEVICE**

Machine

Machine type

1003

Serial Number

2013

Year of manufacture

**subject to this declaration, complies with the requirements of the
Machinery Safety Rules**

Official Gazette of RS, No. 75/08 (Machinery Directive 2006/42 EC)

and the following requirements:

Rules on Electrical Equipment

Official Gazette of RS, No. 27/04 and Directive 2006/95EC

Rules on Electromagnetic Compatibility EMC

Official Gazette of RS, No. 132/2006 (Directive 2004/108 / EC)

Applicable harmonised European standards:	SIST EN 60204-1 del, SIST EN ISO 12100-1 , SIST EN ISO 12100-2, SIST EN 349, SIST EN 418 , SIST EN 574
Applicable national technical standards and specifications:	<ul style="list-style-type: none">- Rules on safety signs (Official Gazette of RS, No.89/99, Official Gazette of RS, No.39/05)- Safety and Health at Work Act (Official Gazette of RS, No. 56/99, 64/01)- Rules on the investigation of the working environment, inspections and tests, work tools (Official Gazette of RS, No. 35/88)- Rules on safety and health in the use of work equipment (Official Gazette of RS, No. 101/04)- Rules on the protection of workers from risks related to exposure to noise at work (Official Gazette of RS, No. 17/06)- Machinery Safety Rules (Official Gazette of RS, No. 75/08)
Date: 23.October 2013	Responsible person: Signature: