

Shrink tunnel

TUNNEL 5525 1100 AX



MACHINE IDENTIFICATION DATA

Model : TUNNEL 5525 1100 AX

Serial number:
refer to the nameplate

Manufacturing date
refer to the nameplate

'EC' labelling
refer to the nameplate

Anexed : Declaration of Conformity, Electrical wiring scheme

The manual consists of 30 pages as follows:

- *Operating instruction cover page*
- *Identification data*
- *Service Centers*
- *Guarantee*
- *Operating instruction section*
- *Spare parts catalogue cover page*
- *Spare parts section*

WARNING: for any doubts on the operating instruction content, ask for to the service centers specifying the page number and the paragraph inclusive of the demanded operating procedure

GUARANTEE

The guarantee is valid for a period of 12 (twelve) months from the date of delivery of the wrapping machine.

Any work carried out under warranty must be performed by ITALDIBIPACK S.p.A. or its authorized distributors.

During the guarantee period, ITALDIBIPACK S.p.A. will replace, free of charge, any parts found to be faulty due to hidden defects in the materials or defects due to the construction, working and assembly carried out in its factory, where the pieces to be replaced or the machine must be returned carriage paid.

In the case in which the replacement or repair must be carried out at the customer's premises, the labour, travelling expenses and accommodation of the technicians or installers will be at the total expense of the customer.

The guarantee explicitly excludes all those pieces subject to normal wear (such as sealing blades, Teflon tape, rubbers, seals, etc.) and electrical parts.

The supplier is liable for faults deriving from the normal use of the machine, and not for those deriving from:

- **incorrect installation**
- **lack of maintenance**
- **incorrect machine use**
- **tampering or repairs carried out by the customer**
- **unauthorized modifications**
- **connection to incorrect power supply**
- **in the case in which the machine is no longer the property of the original purchaser**
- **use in a different manner than that described in the instructions**

SAFETY INFORMATION

Read all the instructions carefully before use. In the case of uncertainty, contact the Technical Service for explanation, quoting the number of the page and the paragraph with the operating procedure in question.

Keep this instruction manual.

The information that it contains will help you to keep your machine fully efficient and to work in perfect safety.

Only connect the machine to a power supply equipped with earth and protected by a differential switch with an intervention limit of 0.03 A.

Do not use the machine in areas where the RH (relative humidity) exceeds 55%.

In the case in which problems should occur, do not intervene directly, but contact the technical service at ITALDIBIPACK or the authorized dealer. We refuse all liability for damage caused to people or property as a result of the direct intervention of the purchaser.

Before carrying out any operation, make sure that the general switch is on the “0” position, and remove the plug from the socket.

Do not open the control panel.

In the event of any unusual occurrence, of any type, during machine operation; immediately press the EMERGENCY STOP button.

The machine must not be used in positions open to the outside environment and/or be exposed to the weather, nor in working areas in which there is steam, fumes, corrosive and/or abrasive powders, or fire/explosion risks, and in particular it must not be used in areas where flameproof electrical components are required.

LIMITS OF USE

The machine must not be used in the following locations: open-air environments and/or those exposed to the elements, environments containing steam, fumes corrosive and/or abrasive dusts, environments with fire or explosion hazards, and in any case wherever the use of fireproof components is required.

The electrical equipment operates correctly within an ambient temperature range of +5 °C to +40 °C and with relative humidity limits of less than 50% at 40 °C and less than 90% at 20 °C.

The machine is not suitable for operation in the presence of ionizing and other kinds of radiations (X-rays, lasers, microwaves, ultraviolet rays). The machine must be stored at a temperature between -5 °C and +55 °C.

QUALIFICATION OF THE OPERATORS

Only workers possessing the following qualifications may be allowed to use the machine:

Machine operator

An operator trained and qualified to operate the machine during functioning, comprising the use of the general switch and all the various controls present on the machine itself, assembly of the roll of plastic film, various adjustments depending on the format of the goods to be packaged, stopping and resetting of the machine.

Mechanical maintenance man

A qualified technician capable of running the machine like the machine operator and also to enable it to operate without the protective devices in the case of work on the mechanical parts for adjustments, maintenance or repairs.

He is not qualified to operate on the live electrical systems.

Electrical maintenance man

A qualified technician capable of running the machine like the machine operator and also to enable it to operate without the protective devices in the case of work on the electrical systems for adjustments, maintenance or repairs.

It is the responsibility of the user to define the qualified workers at the various levels of operation and to provide them with the appropriate training and operating instructions.

PACKAGING

The tunnel is generally dispatched with the removed legs in a crate.

When unpacking the machine proceed carefully, as the machine itself has plastic components; and these are easily damaged by impacts.

The crate contains:

- *The machine body*
- *The legs*
- *The iddle rollers*

Inside the tunnel is a bag containing:

- *Manual for installation, use and maintenance.*

MACHINE ASSEMBLY

After unpacking the machine fix the legs under the tunnel body and fix the iddle rollers to the tunnel exit using the supplied screws.

Make attention to adjust the hight according to the conveyor belt hight.

Place the machine in its working position, taking care to conform to the regulations about minimum distances from the walls and other machinery, etc.

Place taking care to conformnto the regulation about safety distances.

The following image shows the positioning of the TUNNEL 5525 1100 AX in relation to a MECPACK STX automatic film welder machine.



Adjust the machine feet so that the wheels do not touch the floor; and so that the machine is perfectly level.

DESCRIPTION AND TECHNICAL CHARACTERISTICS

TUNNEL 5525 1100 AX

The TUNNEL is a machine that normally is used for shrink products.

The shrinking of the film is achieved by the circulation of hot air forced around the package.

THE FOLLOWING ITEMS MUST NOT BE PACKAGED:

- Loose granular products
- Wet products
- Liquid and/or gelatinous products if not contained in another package
- Highly flammable products
- Explosive products
- Aerosol cans with pressurized gas, etc.
- Anything that could damage the machine or constitute a danger to the health of the operator (for example, acids, corrosive substances, salt)

In the case of use with food products, it is advisable to use plastic sealing film suitable for contact with food. In any case, we remind you that the machine is not suitable for contact with food products.

MARKING



WARNING: Some surfaces of the tunnel body are very hot. Do not touch.

WARNING: The plates must not be removed or covered. It is forbidden place other plates on the machine without a written authorization by the producer.

PLATES (warning signs and CE mark)

The machines are manufactured in conformity with the Machine Directive 2006/42/CE, the Low Voltage Directive (DBT) 2014/35/CE, the Electromagnetic Compatibility Directive 2014/30/CE.

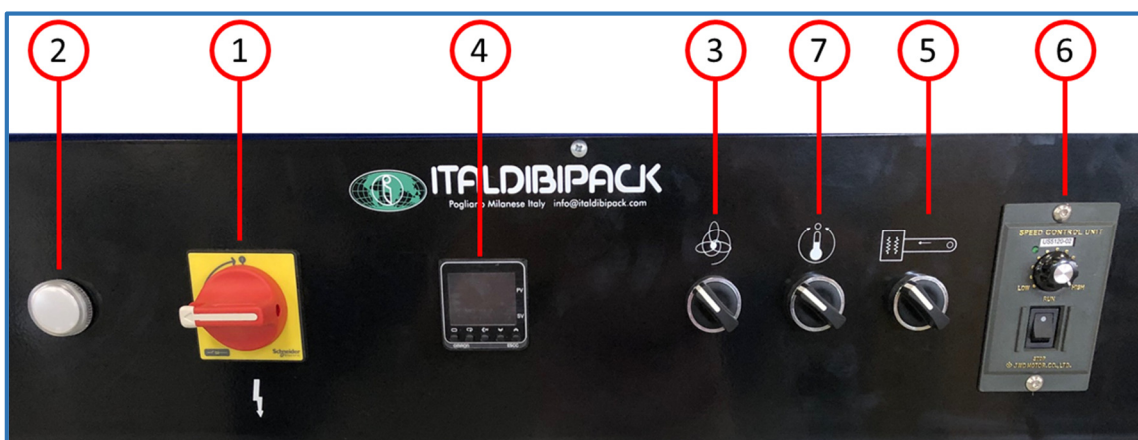
All the components of the machine satisfy the requirements of the Directives and the CE mark testifies to its conformity.

Legibility and conservation of the plates

The machine plates must be carefully maintained, so that all the plate data is legible.

In the case in which a plate should deteriorate and/or even one of the pieces of information shown should no longer be legible, request a new one from the manufacturer and see to its compulsory replacement

COMMANDS



- 1 – MAIN SWITCH
- 2 – POWER LIGHT
- 3 – FAN SWITCH
- 4 – THERMOREGULATOR
- 5 – CONVEYOR BELT SWITCH
- 6 – CONVEYOR SPEED CONTROL
- 7 – HEATERS SWITCH

CONNECTING THE POWER SUPPLY

Supply: 7 kW, 400 V, 3 phases.

It is the user's responsibility to ensure that there is a suitable electrical connection available (Voltage, Board, Isolation Switch, Earth) in conformity with the current regulations.

In particular, it is advisable to use a differential switch with an intervention limit of 0,03 A.

The power supply must be appropriate for the machine and must comply with the margins set out in the relevant standards.

The CEI-EN 60204-1 standards apply in the case of the electrical apparatus of the machines, and consequently the power supply must have a maximum margin of 10% over the voltage value and a maximum margin of 1% in a continuous manner and 2% for a brief period of time over the value of the frequency.

The system must be equipped with an automatic release system with a differential automatic magneto thermic switch and an earth system that guarantees the minimum parameters required by the standards, observing in any case the specific requirements of the current laws in the country in which the machine is installed.

Before connection, check that the characteristics of the mains power supply match those indicated on the information plate on the machine.

Check that the general switch is in the "0" position.

Do not make any "mobile" type connections using extension leads and/or temporary cables, if necessary request the intervention of trained and qualified staff.

Mark the presence of the power cable(s) on the ground if a connection of another type is not possible and the passage of people is expected in the area of installation.

Do not leave cables on the ground in the area of vehicle transit.

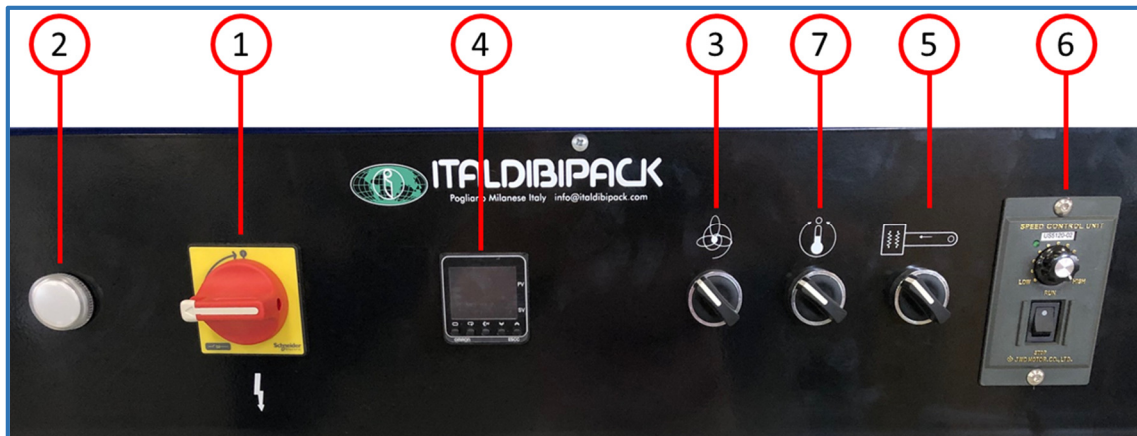
Illumination

The machine does not have a lighting system.

The room lighting level must therefore be sufficient to give shadowless adequate illumination and to guarantee that the machine can be safely operated for the purpose required.

If there is a need to carry out local maintenance on any part not adequately lit for this purpose, a portable lamp must be used. Care must be taken that this does not produce shadows in the intervention zone which will reduce the effective visibility.

MACHINE START-UP AND USE



Preliminary actions

Turn the main (1) switch to position 'I'. The power light (2) turns on.

Turn on the fan switch (3).

Turn on the conveyor belt switch (5)

Turn on the heaters switch (7)

Note: The following operations must be carried out each time that the machine is switched on.

- Check if the fan rotation is according to the arrow on the top of the tunnel. Otherwise shift the phases wires into the plug.
- Set the speed of the tunnel conveyor belt using the knob (6)
- Set the tunnel temperature on the thermoregulatory (4) according to the film and the product size
- Wait approximately 15-20 minutes to reach the temperature setted, which is indicated by the signal light marked "out" going off

Machinery power off

Before to switch off the machine using the main switch (1), turn off the heaters switch (7) and wait until the thermoregulator display shows 70.

ADJUSTMENTS

Conveyor speed belt

Adjust the conveyor belt speed rotating the knob (6).

The parameters that influence the adjustment of the tunnel conveyor belt speed are:

- The film thickness
- The kind of film (PE, PVC, Poliolephine)
- The product shape and size
- The tunnel shrink temperature

Suggested setting 6-8.

Tunnel temperature

To set the tunnel temperature press the arrow up to increase or the arrow down to decrease. The new settings are stored automatically.

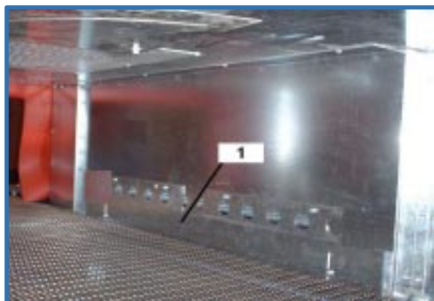
The lower display shows the settled temperature the upper display shows the measured temperature.

The parameters that influence the adjustment of the tunnel temperature are:

- The film thickness
- The kind of film (PE, PVC, Poliolephine)
- The product shape and size.
- The tunnel conveyor belt speed

Suggested setting 135-155.

Air flow adjustment



On the lateral internal parts of the tunnel are same flaps(1).

Loosening the screw it is possible to move up/down the flaps(1) to increase or decrease the air flow under the conveyor belt.


PHROIBITED USE

Using the machine for operations that are not permitted, its improper use and lack of maintenance may cause dangerous situations for personal safety as well as jeopardize the intrinsic functionality and safety of the machine.

- **NEVER** permit operation of the machine by psychophysically unfit people or those who have not carefully read the contents of this manual.
- **NEVER** use the machine in unsuitable environmental conditions.
- **NEVER** use the machine with “mobile” type electrical connections using temporary or non-insulated cables or extension leads.
- **NEVER** leave the machine unattended when it has been enabled for operation.
- **NEVER** use the machine for purposes other than those for which it is designed.
- **NEVER** modify the components of the machine with the aim of increasing productivity.
- **NEVER** use the machine whilst wearing flowing or wide-sleeved garments.
- **NEVER** use the machine if the contents of this manual have not been fully understood.
- **NEVER** carry out cleaning or extraordinary maintenance operations without having first deactivated the machine and removed the plug from the power socket.
- **NEVER** carry out temporary or emergency repairs: call the service center.
- **NEVER** use the machine as a resting surface and do not place any object on it that is not used for normal packaging operations.
- **NEVER** touch the sealing bar when opening the hood after a packaging operation.
- **NEVER** carry out packaging operations with a broken sealing element: replace it immediately.

MAINTENANCE

WARNING: Before carrying out any operation on the machine, ensure that the main power isolation switch is in the “0” position, and remove the machine powerplug from its socket

	<p>REQUIREMENT: Use proper PPE</p>
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	<p>WARNING: Risk of burns</p>
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Operations to be carried out by the machine operator

Cleaning the machine body using a cloth (made from cotton or a synthetic material) dampened with water or a product of the type normally used for cleaning glass.

The machine functions with plastic films and same time the film sticks on the conveyor belt rollers.

When necessary, remove the residues of film.

NEVER INTRODUCE INTO THE TUNNEL empty bags.

If same empty bag go into the tunnel it sticks on the fan inlet. Please remove it immediatly.

WARNING: Never use abrasive cleaners, brushes or metal blades to remove deposits

SCRAPPING AND DISPOSAL

Should the machine be scrapped, provide for the differential disposal of its components (i.e. metal, oils, greases, plastic and rubber, etc.), preferably turning it to authorised specialized companies and in any case in compliance with regulations in force in terms of industrial and solid waste disposal at the installation site.

WARNING: Never place the machine within working areas: it might become a serious danger for people, specifically children, and animals. The machine owner shall be liable for damages.

TROUBLESHOOTING

Problem	Probable cause	Solution
The power light doesn't come on	Machine not supplied or automatic circuit breakers open	Chequear Check
The conveyor belt doesn't run	Push switch broken. Thermal fan motor protection not hooked. Wrong speed adjustment	Check
The fan motor doesn't run	Thermal fan motor protection not hooked. Motor burned.	Check
The tunnel doesn't heat up	The fan motor doesn't run. The heaters are burn out. The thermoregulator is broken. The thermoregulator probe (thermocouple) is broken.	Check and replace the broken part
The conveyor speed is not adjustable	The potentiometer is broken. The motor control board is burned.	Check and replace the broken part
The shrinking is not good	The conveyor belt speed is uncorrect. The tunnel temperature is uncorrect. Uncorrect film. The film used is not microperforeted. The edges of the bag are not sealed correctly. Fan inlet closed.	Check

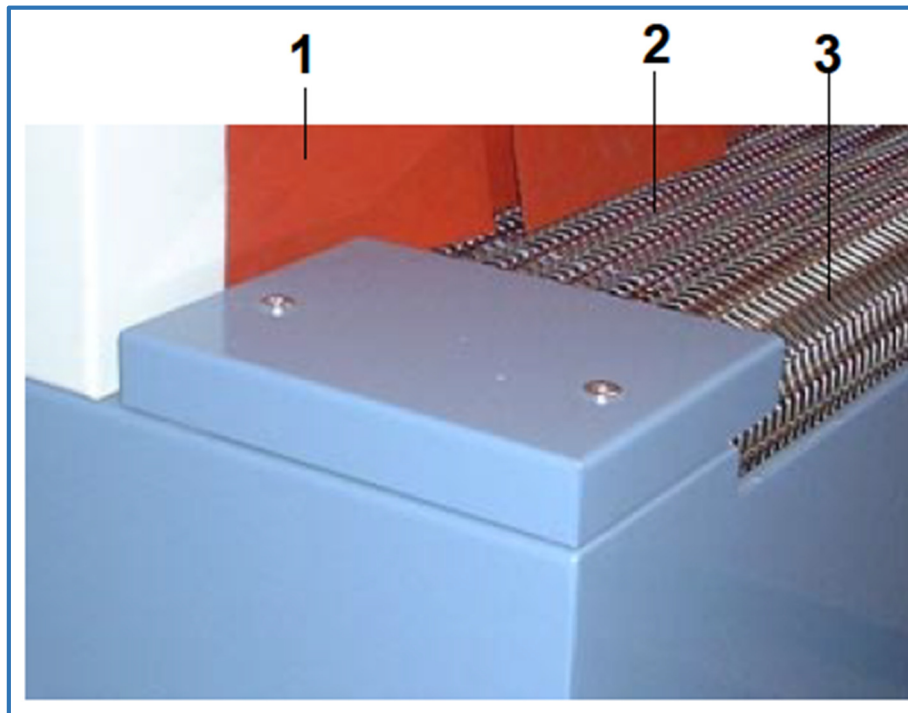
Note: If the machine still does not function perfectly after having carried out the aforementioned checks, contact the Service Centre with an exact description of the fault encountered.

Shrink tunnel

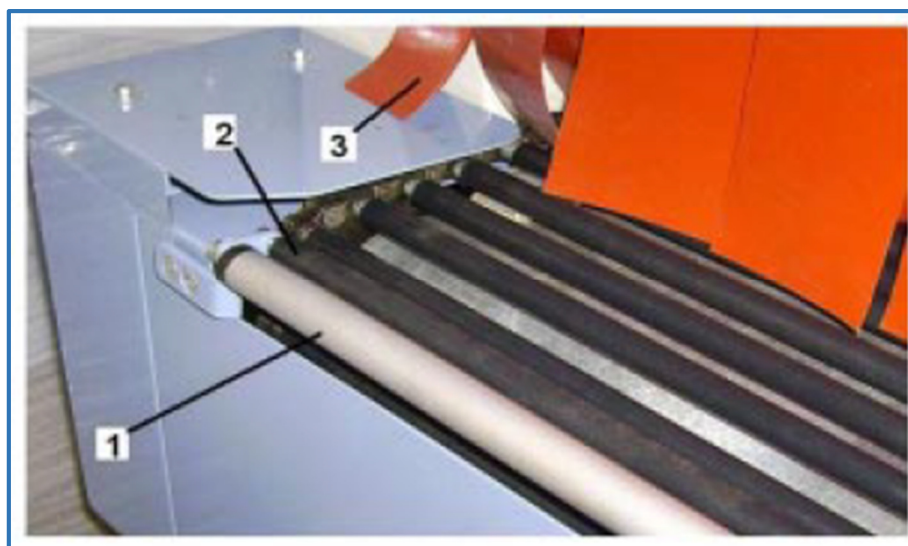
TUNNEL 5525 1100 AX



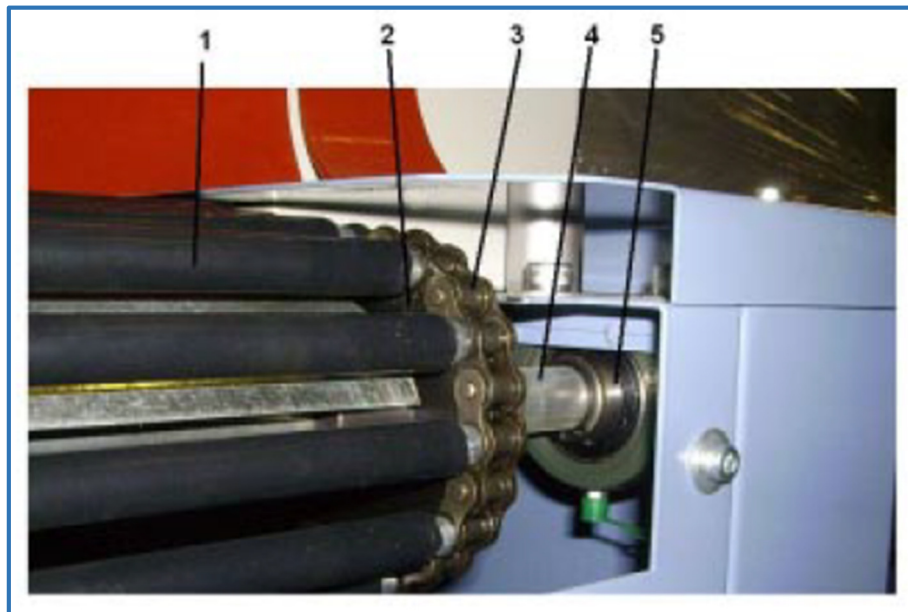
Spare parts catalogue



Nr.	Code	Description	Q.ty
1		Tunnel curtain	
2		Tunnel mesh conveyor belt (option)	



Nr.	Code	Description	Q.ty
1		Tunnel entrance idle rod	
2		Tunnel entrance idle rubber rod	



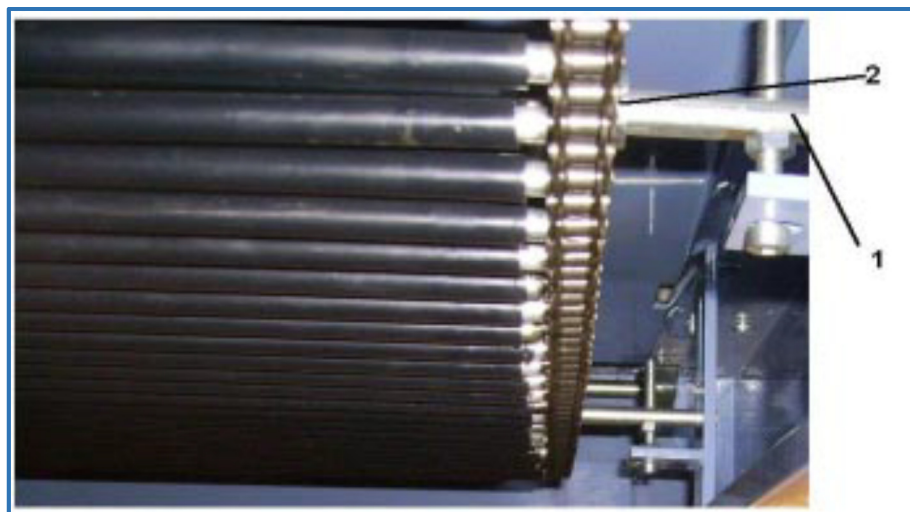
Nr.	Code	Description	Q.ty
1		Conveyor rubber rod	
2		Tunnel conveyor sprocket	
3		Tunnel conveyor chain	
4		Tunnel shaft	
5		Tunnel bearing	



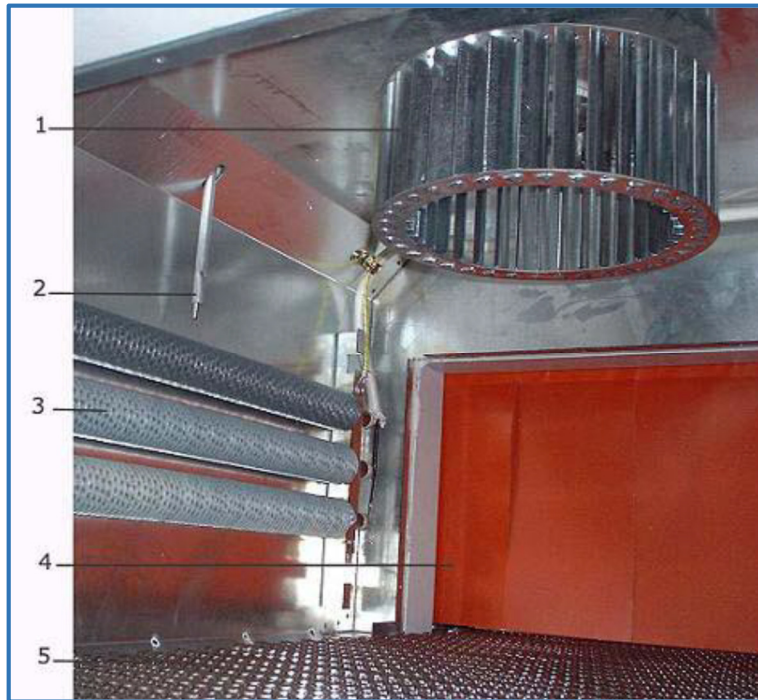
Nr.	Code	Description	Q.ty
1		Motor sprocket	



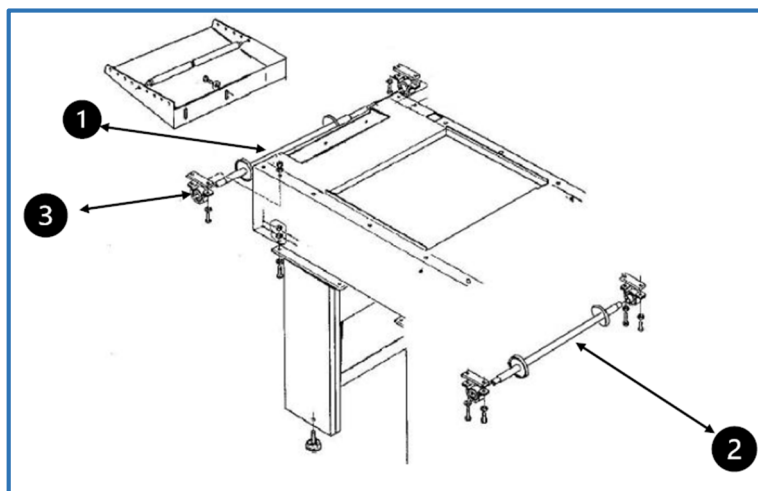
Nr.	Code	Description	Q.ty
1		Motor	
2		Gearbox	



Nr.	Code	Description	Q.ty
1		Tensioning shaft	
2		Tensioning sprocket	



Nr.	Code	Description	Q.ty
1		Tunnel fan impeller	
2		Thermocouple	
3		Tunnel heaters	
4		Tunnel curtain	
5		Tunnel mesh conveyor belt (option)	



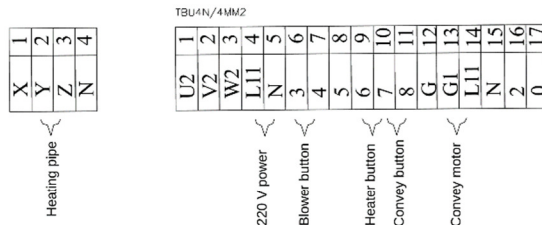
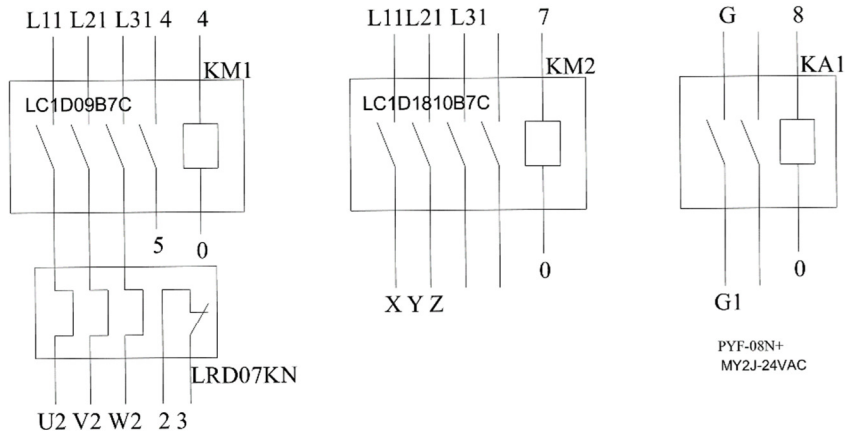
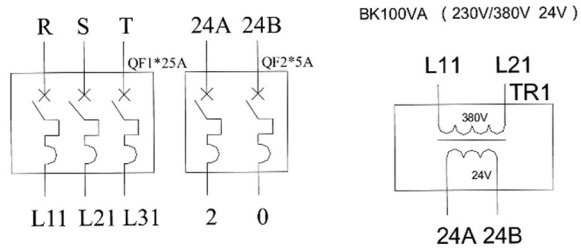
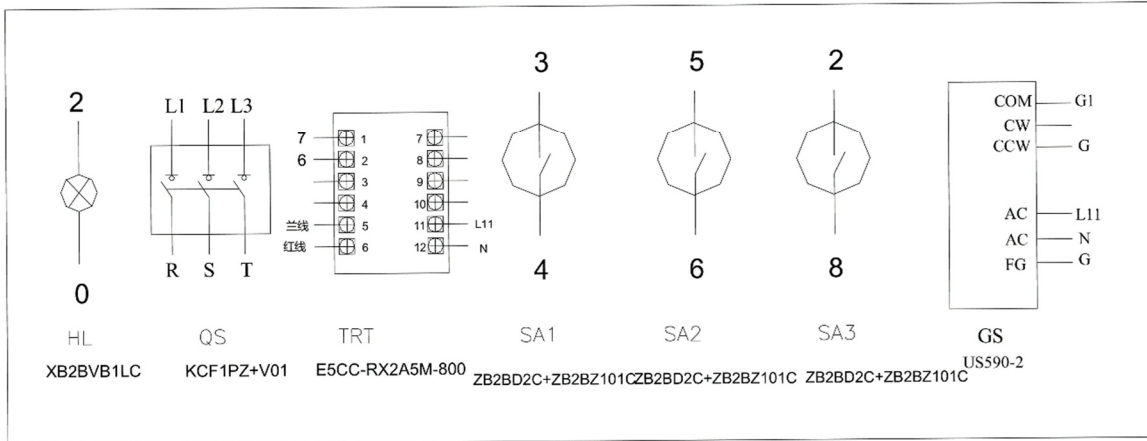
Nr.	Code	Description	Q.ty
1		Driving roller	
2		Idle roller	
3		Bearing	

Shrink tunnel

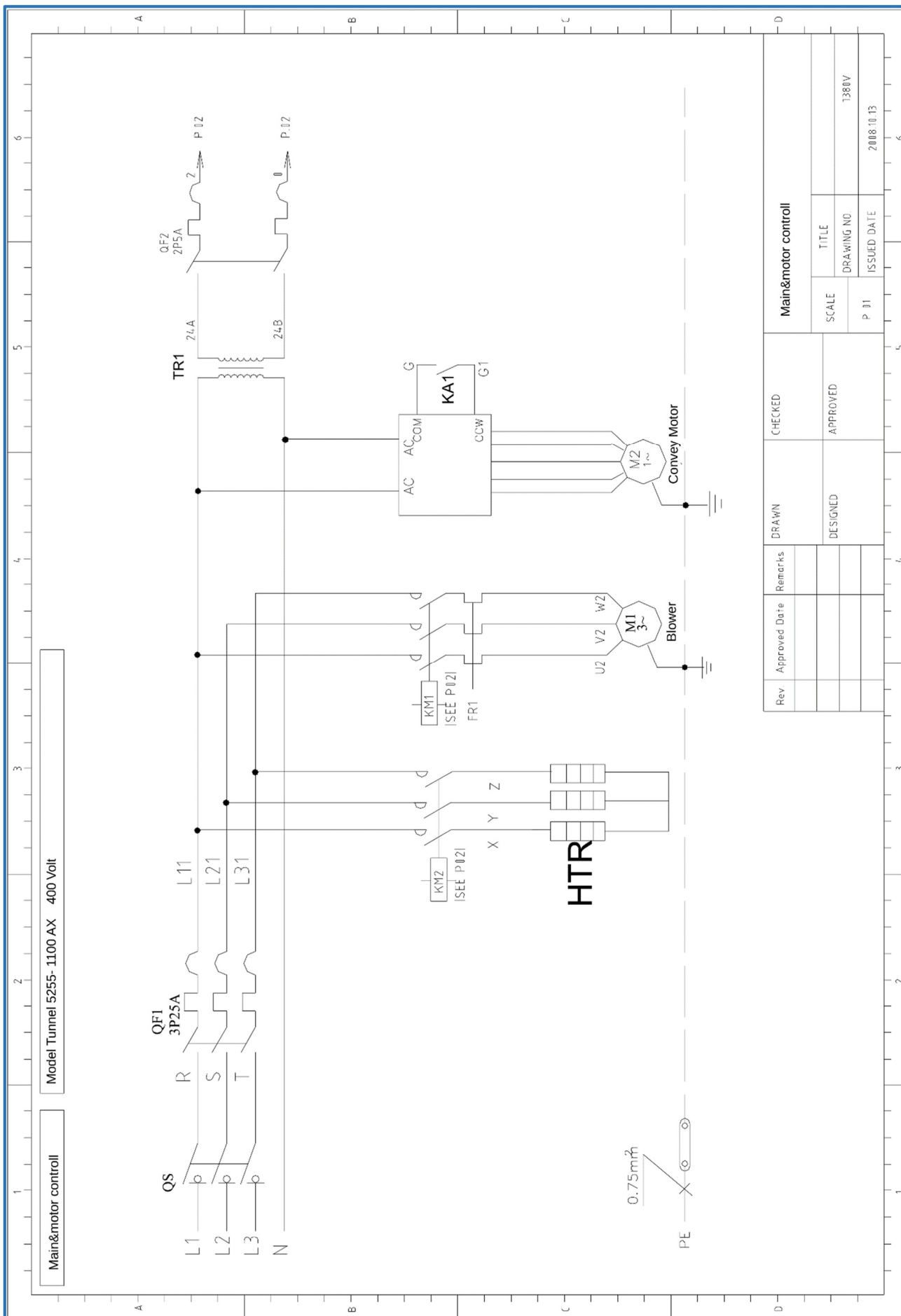
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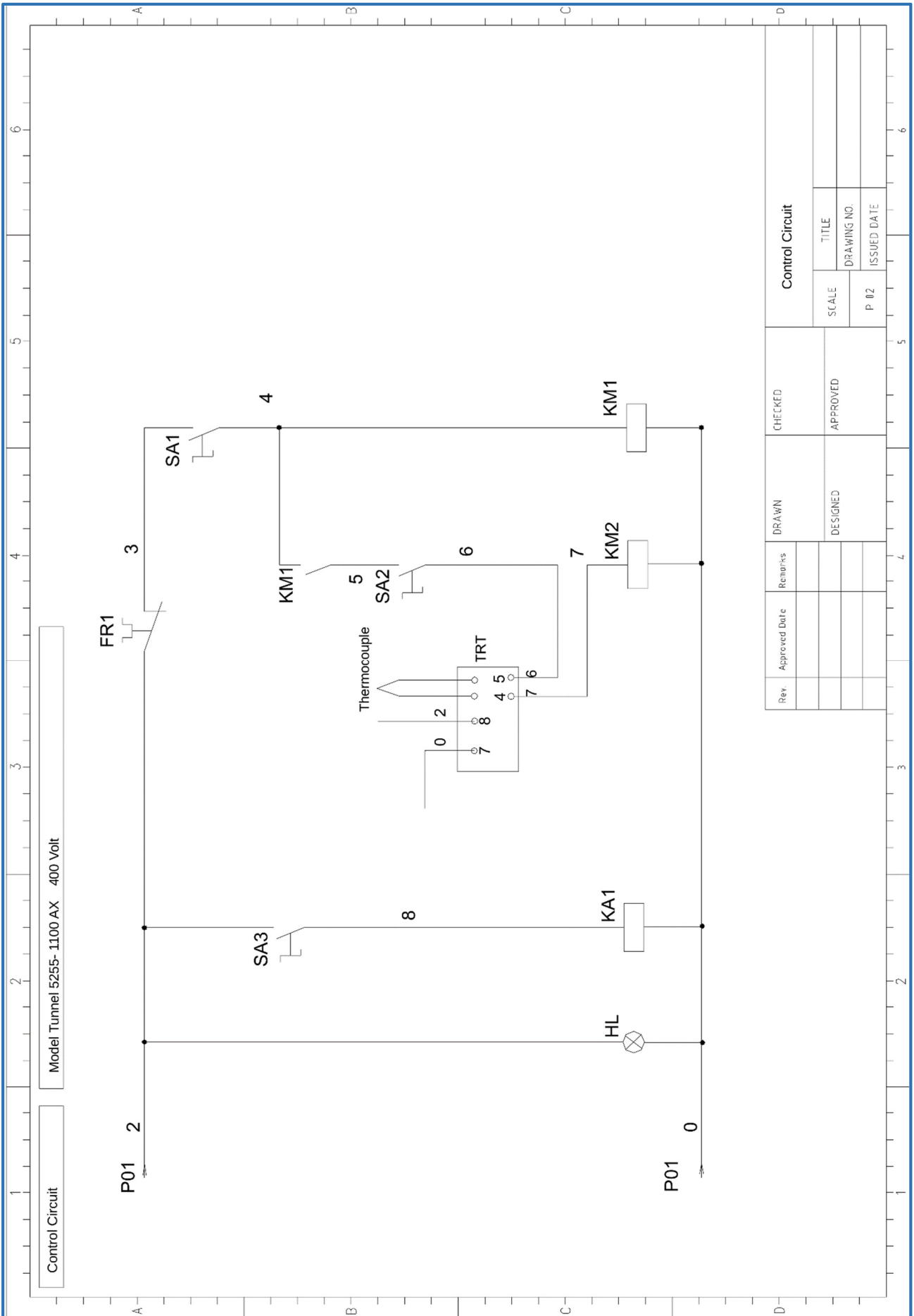


Wiring diagram



Rev.	Approved Date	Remarks	DRAWN	CHECKED			
			DESIGNED	APPROVED	SCALE	TITLE	
					P 05	DRAWING NO.	380V
						ISSUED DATE	2013-2-20





Rev	Approved Date	Remains	DRAWN	CHECKED	Control Circuit		
			DESIGNED	APPROVED	SCALE	TITLE	
					P 02	DRAWING NO.	
						ISSUED DATE	

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