




*User and
Maintenance
Manual*



ENGLISH



<i>Manufacturer</i>	GHIDINI BENVENUTO s.r.l.
<i>Product</i>	T-3000 Trouser's Topper
<i>Year</i>	2003
<i>Certification</i>	

CONTENTS

1	INTRODUCTION	10	CONTRARY DIRECTIONS
2	GENERAL DESCRIPTION	11	OVERALL DIMENSIONS AND SCHEMES
3	MACHINE IDENTIFICATION	12	MAINTENANCE PROCEDURES
4	TECHNICAL SPECIFICATIONS	13	DISPOSAL
5	MACHINE COMPONENTS	14	SPARE PARTS ORDERS INFORMATION
6	PACKING AND INSTALLATION	15	MOVING AND TRANSPORT
7	TECHNICAL INSTRUCTIONS	16	GUARANTEE
8	PROBLEMS AND SOLUTIONS	17	DECLARATION OF CONFORMITY
9	PRECAUTIONS		

1 INTRODUCTION

The present technical instructions and maintenance's manual refers to the pneumatic trousers' topper "T-3000". It is possible to get the latest version, asking it to the Technical Commercial Department, or visiting our website www.ghidini-gb.it.

The present technical instructions and maintenance's manual contains important information regarding health and security safeguard of the staff who intends to use this equipment.

It is necessary to read with attention this manual and keep it with care so that it will always be available for the operators who intend to consult it.

Ghidini s.r.l. declines every responsibility for damages to persons or things, in case of not conformity with what stated in the present manual. Eventual changes in the component parts of the system or different uses of the same or of part of it without written authorization by Ghidini s.r.l., relieve the same from every responsibility for damages to persons and/or things and release it from the tie of guarantee.

2 GENERAL DESCRIPTION

T-3000 trousers' topper is an innovating equipment for the ironing of all typologies of trousers.

This ironing station for its functioning uses external sources for electric current, compressed air and steam.

The machine is equipped with an electronic card for the programming of 19 cycles of ironing.

The use is simple and effective, thanks to a control pedals system placed in the trousers hook/unhook area. The machine is provided with a heater which allows the heating of the air inflating the trousers.

On the front panel it is possible to regulate the pressure of the various clamps closing the trousers.

3 MACHINE IDENTIFICATION

A plate is placed on the back part of the machine, on which it is mentioned model, serial number, year of construction, voltage and feeding pressures.

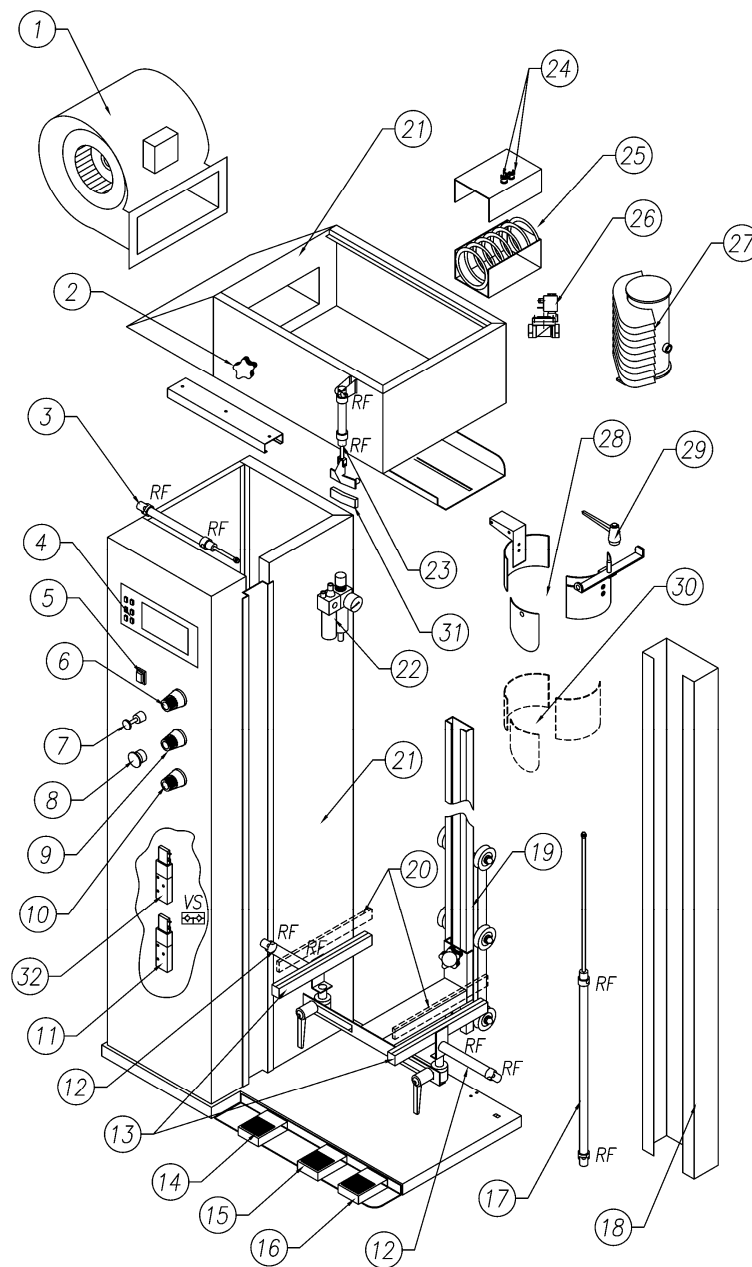
4 TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS	
Voltage	3Ph 230V - 400V / 50 Hz
Electric consumption	2 KW
Steam inlet	5 bar min. - 6 bar max.
Compressed air inlet	4 bar min. - 8 bar max.
Steam working pressure	5 bar
Air working pressure	5 bar
Steam consumption	15÷20 Kg/h
Air consumption	40 NI/min
Fan motor power	1 HP
Sound pressure level	< 70 dB(A)
Working temperature	+ 5 ÷ + 80 °C
Working moisture	90 % max.
Storing temperature	- 20 ÷ + 50 °C
Net encumbrance	1115 x 630 x 1950 mm.
Net weight	140 Kg
Gross encumbrance (crate)	1000 x 650 x 2020 mm
Gross weight (crate)	200 Kg

ATTENTION: do not feed the machine with voltage and pressure different from the ones indicated in the prospect above.

5 MACHINE COMPONENTS

The main components of the machine are:



Pos.	CODICE	DESCRIZIONE	Pos.	CODICE	DESCRIZIONE
1	42C001	Inflating Fan	17	35C022	Trolley pneumatic cylinder
2	52A006	Fan regulation knob	18	173203/17	Legs stretching trolley column
3	35C021	Topper locking cylinder	19	173202	Legs stretching trolley
4	25L041	Electronic card	20	235081	Clamps sponges kit
5	43A014	Heater switch	21	160050/52	Fairing
6	35B013	Waistband locking device	22	35B012/35A001	Air reducer filter group with lubricator
7	38A011	Trolley exclusion switch	23	35C013	Pneumatic topper locking cylinder
8	43B005	Stop/reset Blowing cycle switch	24	45B002/04	Couple of thermostats
9	35B013	Legs stretching pressure regulator	25	213123	Heater resistance
10	35B013	Legs locking clamps regulator	26	39B018	Steam solenoid valve
11	39A004	Air solenoid valve 1/8"	27	202054	Condensate separator
12	35C013	Clamps pneumatic cylinders	28	173219/20/21	Topper bending group
13	173059	Trouser legs closing clamps	29	52A007	Lever for the size regulation
14	38A024	Waistband opening/closing pedal	30	274179	Topper bending padding kit
15	38A024	Left clamp opening/closing pedal	31	274138	Central bending padding kit
16	38A024	Right clamp opening/closing pedal	32	39A006	Three-way air solenoid valve

RF=Air flow regulator / VS= Rapid discharge valve (see schemes)

6 PACKING AND INSTALLATION

ATTENTION: the machine can be installed, opened and repaired only by specialized staff.

6.1 UNPACKING

Once identified the ideal location for the installation, open the package and take out the machine. Control that it has not suffered any damage during its transport or storing. The packing material does not require special precautions for its waste, not being in any way dangerous or polluting. To get rid of it you can refer to your local regulations.

6.2 INSTALLATION

The machine does not need any fastening on the floor, except for installations on means of transportation (in this case you can use the fixing holes arranged on the base).

Provide a suitable area for the installation, leaving a minimum perimetrical space for the correct work and assistance. Do not install the machine in aggressive and/or explosive/inflammable areas.

6.3 ELECTRIC CONNECTION

Connect the machine to the electric line as indicated in the scheme, verifying if the power tension and frequency correspond to those indicated on the technical data plate of the machine. The feeder (electric cable) must have the adequate section, depending on the machine absorption and must correspond to the current regulations. Introduce the cable in to the appropriate hole in the machine and fix it with the cable clamp then connect it to the junction boards on the electric board as indicated in the scheme.

6.4 COMPRESSED-AIR CONNECTION

Connect the machine from the hole of ¼" Gas to the central supply with a tube having an internal diameter not inferior to 6mm. Make sure that the pressure does not exceed 8 bar, in case it does, please install a pressure reducer. Install a gate valve in order to exclude the machine in case of maintenance and at the end of every working process.

The machine is equipped with a reducing and a lubricating filter. A valve is placed under the reducing filter bucket, which is opened whenever the pressure is missing, in order to discharge the accumulated condensate. Remember therefore to close the air inlet at the end of the work. If the working rhythms are elevated, control periodically the condensate level inside the filter bucket and discharge by operating manually the valve situated under the bucket. Control periodically also the oil level inside the lubricator and refill if necessary after having unscrewed the screw located on the upper part of the group (before unscrewing the screw in order to refill the oil, the air has to be discharged from the whole plant).

The streaming in of the oil inside the pneumatic plant is regulated by the screw situated on the top of the lubricator group. Turning it clock-wise it is closed, turning it counter-clockwise, on the other hand, it is opened, increasing the oil inlet.

The screw must be regulated in such manner, that one drop will fall after every 50 ironing cycles.

6.5 STEAM CONNECTION

- In case of connection to a central steam supply, act as follows:

Derive a tube of 3/8" Gas from the higher part of the steam-inlet tubing of the central steam supply and install near the machine a gate valve. Connect then to the steam inlet of the machine of Ø 3/8" Gas, using a tube which must have an internal diameter not inferior to 10mm.

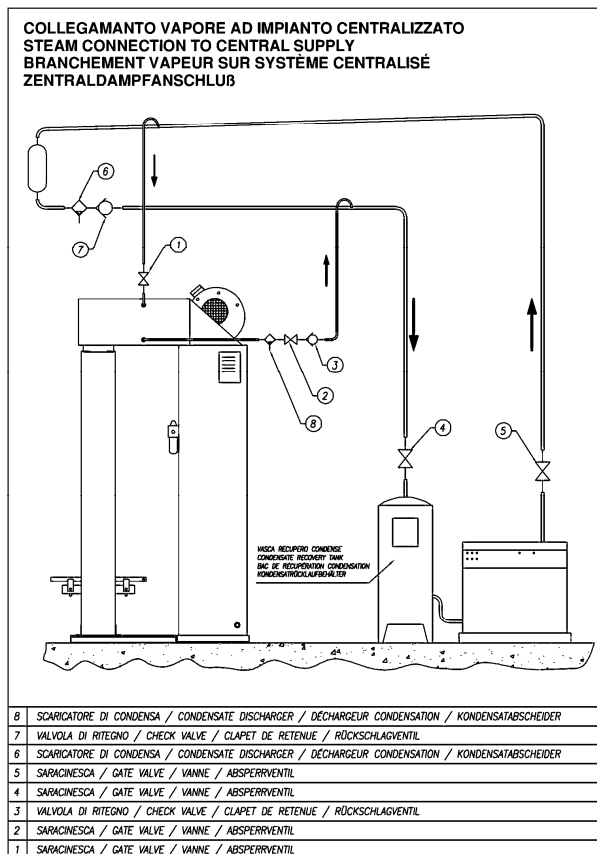
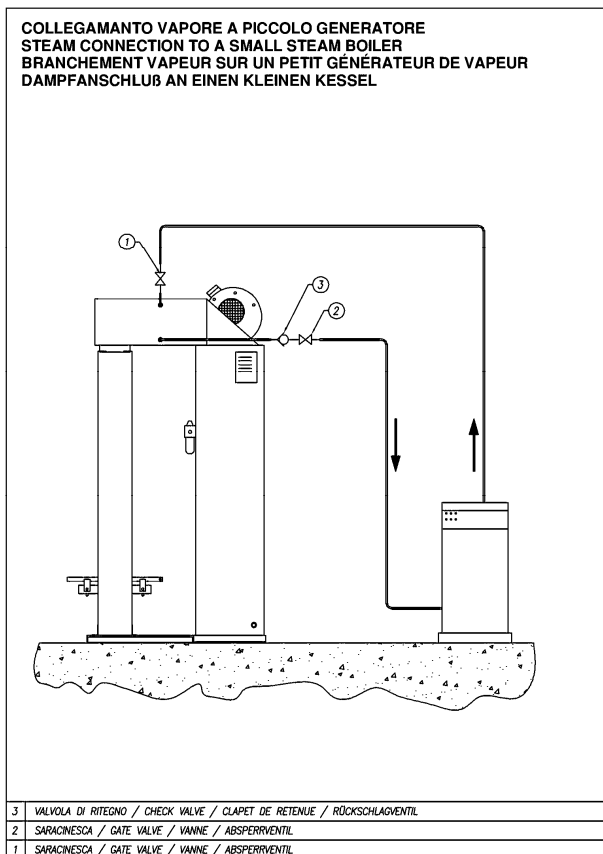
Apply for the condensate-return a tubing identical to the one used for steam and install near the machine a gate valve of Ø 3/8" Gas. Install also on the connection of Ø 3/8" Gas of the condensate-return a condensate discharge with filter and, after this, a non-return valve.

Connect then to the gate valve with a tube having an internal diameter of at least 10mm. The maximum steam pressure must be of 6 bar.

- In case of connection to a little steam generator, act as follows:

Connect the steam inlet to the adequate hole Ø 3/8" Gas on the back part of the machine. The maximum steam pressure must be of 6 bar. It is advisable to use a tube with an internal diameter not inferior to 10mm. Install on the tube a gate valve to enable the exclusion of the machine from the installation. Connect the condensate-return to the adequate hole Ø 3/8" Gas. Please use also in this case a tube with an internal diameter not inferior to 10mm. Install on the tube a non-return valve and a gate valve in order to enable the exclusion of the machine from the installation and connect to the steam generator. It is recommended not to bend the tubes with right angle, but to curve them with a maximum radius of 50mm. Apply the tubes in the right way, in order to have a constant inclination, especially for the condensate-return tube. Do not create any siphons, do not install neither connections nor gate valves with an inferior diameter to the one of the tube, do not install tubes longer than 2,5m. The hole of the condensate-return of the Topper must be situated at least 150mm higher than the water level of the boiler. This kind of connection does not allow the maximum capacity exploitation of the Topper because of the limited capacity of the circuit. It is therefore advisable to apply this solution only if the generator produces at least 15 kg steam per hour, if the time of only steaming and of air and steaming together lasts not more than 7 seconds, if the total amount of ironed clothes is roundabout 15 – 20 /h, if the tubing is very short and applied correctly as described above.

N.B.: At the end of all the connections make sure that tubes and cables are protected from eventual collisions and suitably fixed and isolated.



7 TECHNICAL INSTRUCTIONS

7.1 PUTTING INTO OPERATION

- The unit can be used, opened and repaired only by specialized staff.
- Do not use the machine while dipped in fluids, or placed in particularly aggressive and/or explosive/inflammable areas.
- Do not ignore the dangers for your health and follow the hygienic and security regulations.
- Use always tubes suitable to the pressures.
- Make sure that the electrical connection is made following the actual regulations and that all the fuse carriers are closed and complete with their own fuse.
- Assemble the topper bending plate using the equipment screws.

7.2 PREPARATIONS BEFORE STARTING UP

- Verify the integrity of the machine
 - Verify compressed-air and steam connections
 - Once connected and on, the machine needs only the planning of the working programs (see next paragraph). Before starting up, verify if the air and steam cocks are opened.
 - Switch on, if necessary, the heater element of the heater.
 - Wait a few minutes, to let the machine reach the right temperature.
 - Verify if the steam circuit is at full capacity, moving intermittently the steam manual switch.
 - At the beginning and mainly when the machine is connected to a little steam generator, is possible a condensate discharge: keeping on moving the steam switch the reaching of the full capacity is helped.
- Attention:** with this process, from the sprayer comes out some condensate, put under the Topper bending a recipient to recuperate the condensate.

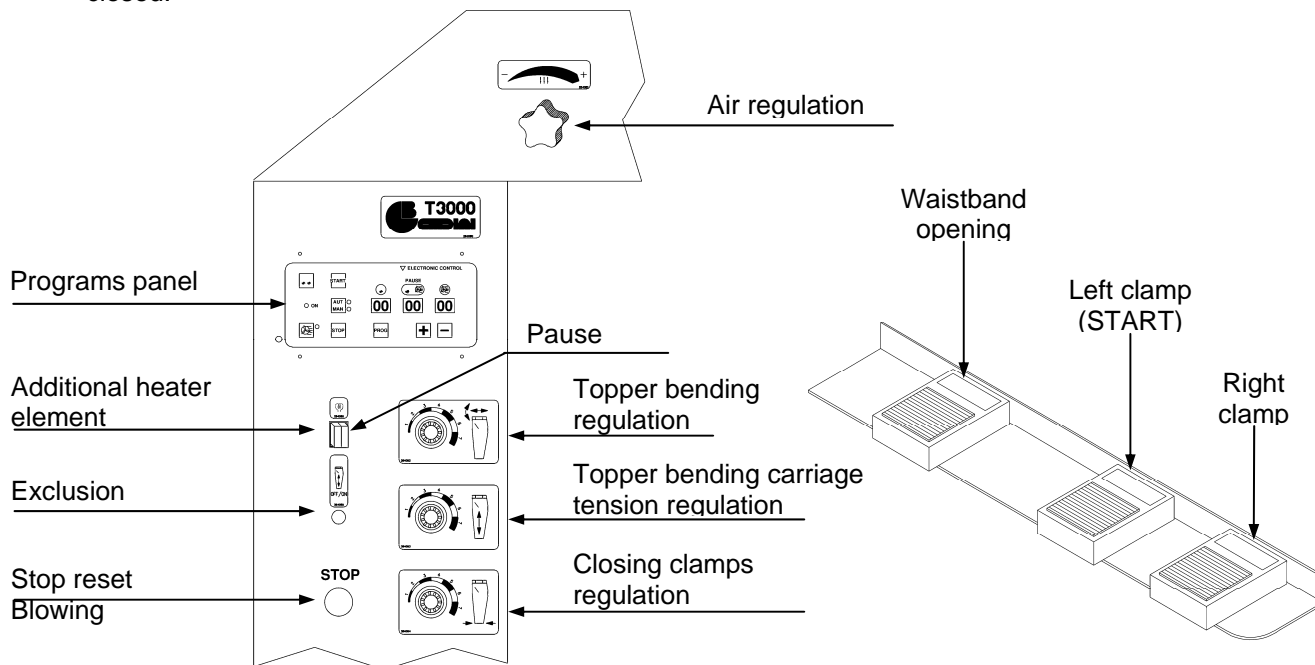
Pay attention to the danger of burns during this process.

- When the machine is new or is inactive since a long time, it is advisable to make some cycles without clothes.

7.3 REGULATIONS

- Regulate clamps closing pressure by the 3 knobs placed on the front panel
- Regulate the legs stretching carriage height according to the length of the trousers, by the knob placed on the vertical guide

- Regulate the necessary quantity of air for ironing by the knob placed in high part of the front panel
- Exclude, if necessary, the motion of the topper bending carriage
- Plan the desired program
- Now you can start ironing
- In case of anomalies or blockage of the program, press the switch "STOP", if pressed for more than 2 seconds, the fan is activated.
- By means of the push button MAN/AUTO the manual or automatic start of the ironing cycle can be set.
- In case the automatic working cycle is chosen, it will be started as soon as the left-hand pincers will be closed.



7.4 PROGRAM SETTING

Upon switching on, the program version will appear, by flashing on the left-hand display for about 4 seconds. The front panel features 8 push buttons:



Manual steam:

- If pressed, you activate the steam control.



Manual blowin:

- If pressed, the machines changes over to the blowing control FLIP/FLOP (the function is displayed by the relevant LED).



Start:

- This button starts the working cycle.



Stop:

- If pressed, you interrupt the working cycle.



Manual/Automatic:

- If pressed, you interchange the two functions, displayed by the relevant LEDs.
- The manual function activates the working cycle only by pressing the START button on the front panel.
- On the other hand, you can activate the automatic working cycle by a remote control or by an automatic starting device.



Programming:

- If pressed briefly, the display shows the current program number for about 1 second. During its display, it is possible to modify it by the relevant +/- buttons.
- If pressed for more than 3 seconds, it allows to change the operational settings.
- Upon each pressing, the program function moves one step forward, until the end of the programming is reached.
- The programming steps are as follows:
 - Program number (1 ÷ 19)

- Steaming time expressed in seconds (0 ÷ 99)
- Steaming and blowing time expressed in seconds (0 ÷ 99)
- Blowing time expressed in seconds (0 ÷ 99)



Plus-button::

- Upon programming, this plus-button allows to modify the displayed, flashing number (seconds) by increasing it.
- Outside the programming phase, it can display the count of the effected operations for about 1 second (stroke-counter).
- If you press the minus-button for more than 3 seconds while the stroke-counter is displayed, the same will be reset.



Minus-button:

- Upon programming, this minus button allows to modify the displayed, flashing number (seconds) by decreasing it.
- If you press the minus-button for more than 3 seconds while the stroke-counter is displayed, the same will be reset.

The working cycle features 3 different times in sequence:

- Steaming time.
- Steaming and blowing time together (or of pause, if you press the relevant button).
- Blowing time, only.

The flashing ON-LED signals, that the working cycle has started, by activating at the same time the relevant output, whereas the displays show the decreasing time of the different steps. In case you select the PAUSE option, the central display unit will be flashing during the working cycle. At the end of the working cycle, the machine up-dates the cycle count, resets the timers of the different cycle steps, and is ready for a new cycle START.

The remote STOP-pedal features two different functions:

- If you press on the pedal for more than 2 seconds, it activates the manual blowing.
- if you press from 0.1 to 2 seconds on the same, it deactivates the manual blowing, if previously activated, or it stops the working cycle of the machine, if running.

7.5 USE

- Take a pair of trousers, button up the waistband and position yourself in front of the machine.
- Put the waistband on the Topper shape, push the pedal of the waistband stretching carriage. The waistband tightens and the waistband locking device fixes the front part of the waistband.
- Push and keep pushed the right pedal. The right closing clamp opens and you can put one of the legs extremities in it. Then release the pedal, considering that the pedal release corresponds to the closing of the clamp.
- Repeat this last operation using the left closing clamp and the other leg extremity.
- Push the button for the starting of the working cycle.
- At the end of the working cycle, push the pedal of the waistband stretching carriage and release definitely the trousers from the shape.
- The machine is ready for a new working cycle.

8 PROBLEMS AND SOLUTIONS

Here below you will find a diagnostic list with the main anomalies, the probable reasons and the possible solutions. In case of doubts and/or problems not easily solvable, do not proceed with the quest for the damage, dismantling parts of the machine, but do contact our Technical Department or a Ghidini distributor.

DIAGNOSTIC LIST		
INCONVENIENCES	PROBABLE REASONS	INTERVENTION
Pneumatic non-enlivening:	Air feeding missing	Verify the presence of air on the manometer placed on the reducer
Machine non-ignition:	General switch off	Verify the general switch and switch it on
	Burnt fuses	Verify the fuses
Steam non-delivery:	Steam inlet cock closed	Open the stream inlet cock

9 PRECAUTIONS

It is necessary to read with attention the remarks and the risks connected the use of a trousers topper. The operator must know the functioning of the machine and must understand clearly which are the dangers reading this manual.

Electric current

Do not make any intervention on the machine without having disconnected the same from electric feeding, and having controlled that nobody can reconnect it during the intervention.

All the electric, electronic apparels and basic structures installed, must be connected to the earth line.

Inflammability

It is advisable to adopt all the possible devices to avoid that the machine is in contact with very hot parts or free flames. It is also advisable to place near the machine, fire extinguisher for a ready intervention in case of fire.

Pressure

Before all interventions, check the absence of pressures residue in every branch of the hydraulic/pneumatic circuit, that can cause a sprinkling of steam in case of dismantling of connections and components.

Noise

The machine does not emit excessive noises remaining under 70 Db(A).

10 CONTRARY DIRECTIONS

The verification of conformity to the essential security qualifications and dispositions provided in the machine directive are effected by compiling of control lists already prepared and contained in the *technical file*.

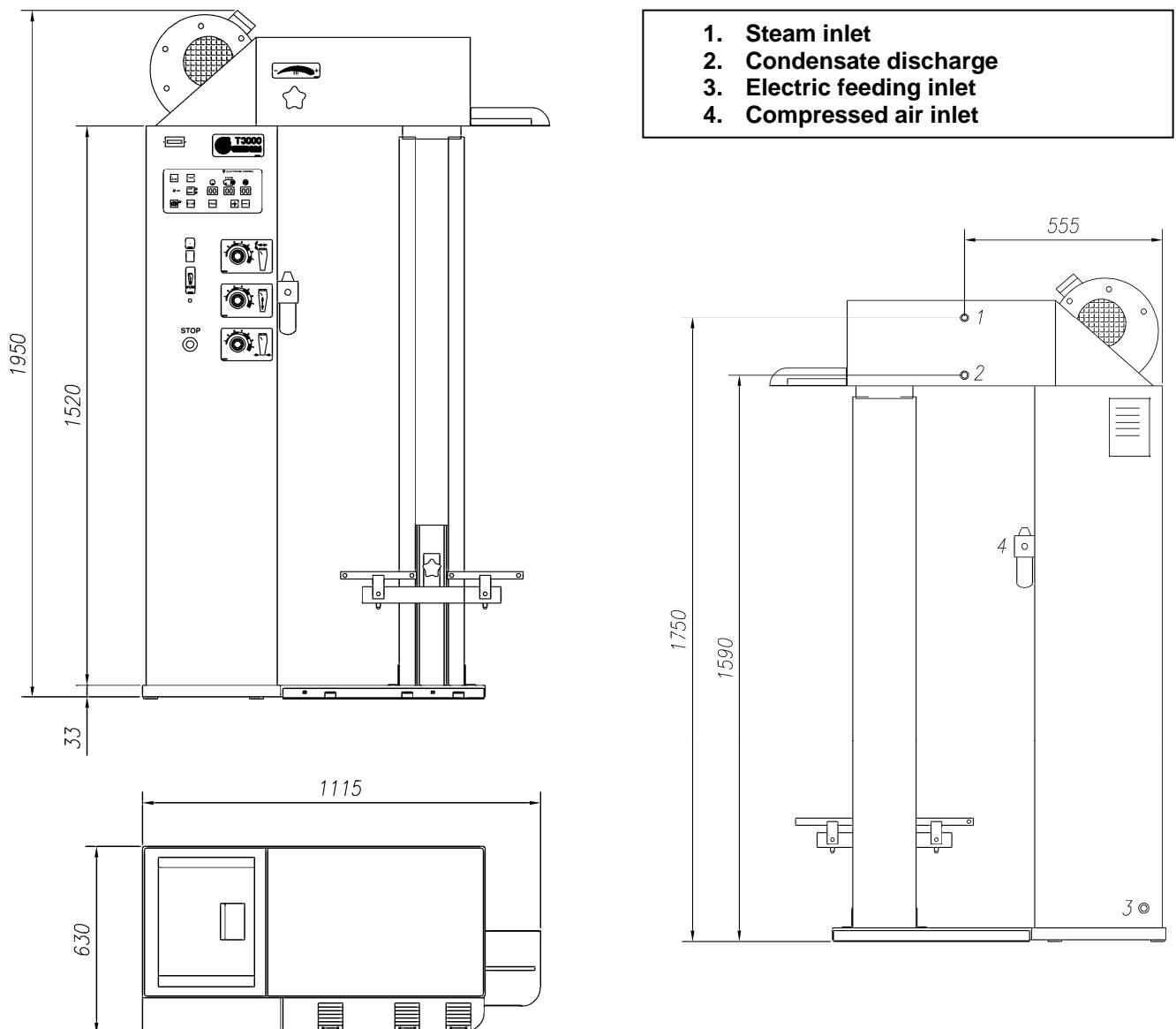
We have used two types of lists:

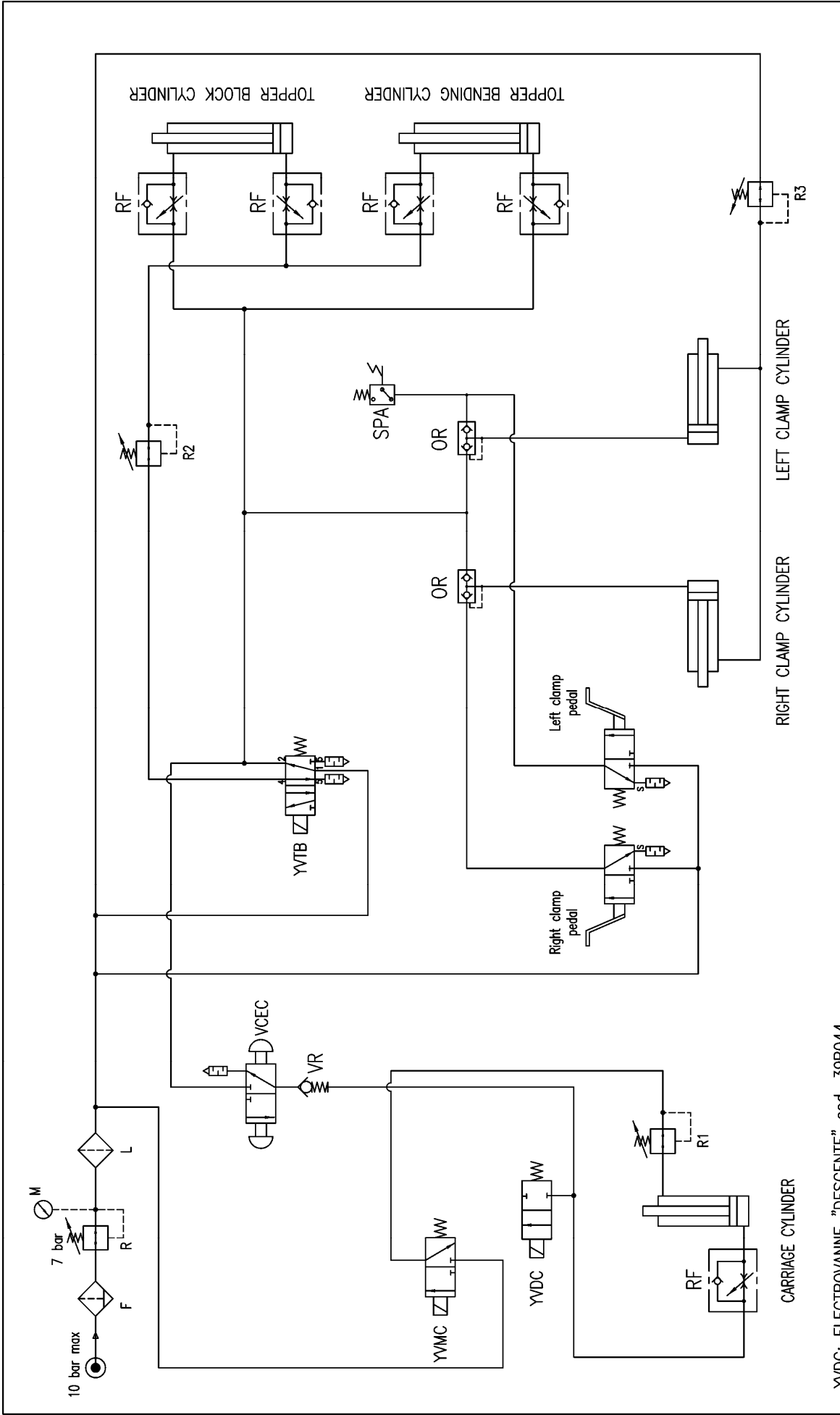
- Dangers lists (extracted from EN 1050 referring to EN 292)
- Application of essential security qualifications (Machine Dir. – attachment 1, part 1)

N Following we report the dangers not completely eliminated but considered acceptable:

- During the maintenance phase there can be a sparkling of low pressure steam (we remind you that this operation must be effected using the suitable DPI)
- The protection against direct or indirect contacts must be provided for by the user.

11 OVERALL DIMENSIONS AND SCHEMES





Denominazione T 3000
Description

3	Data	17/03/03
2	Dis. E.R.	
1	Cod.	
1	Appr.	
1	Elaborazione	
1	Disegnato	
1	Verificato	
1	Approvato	

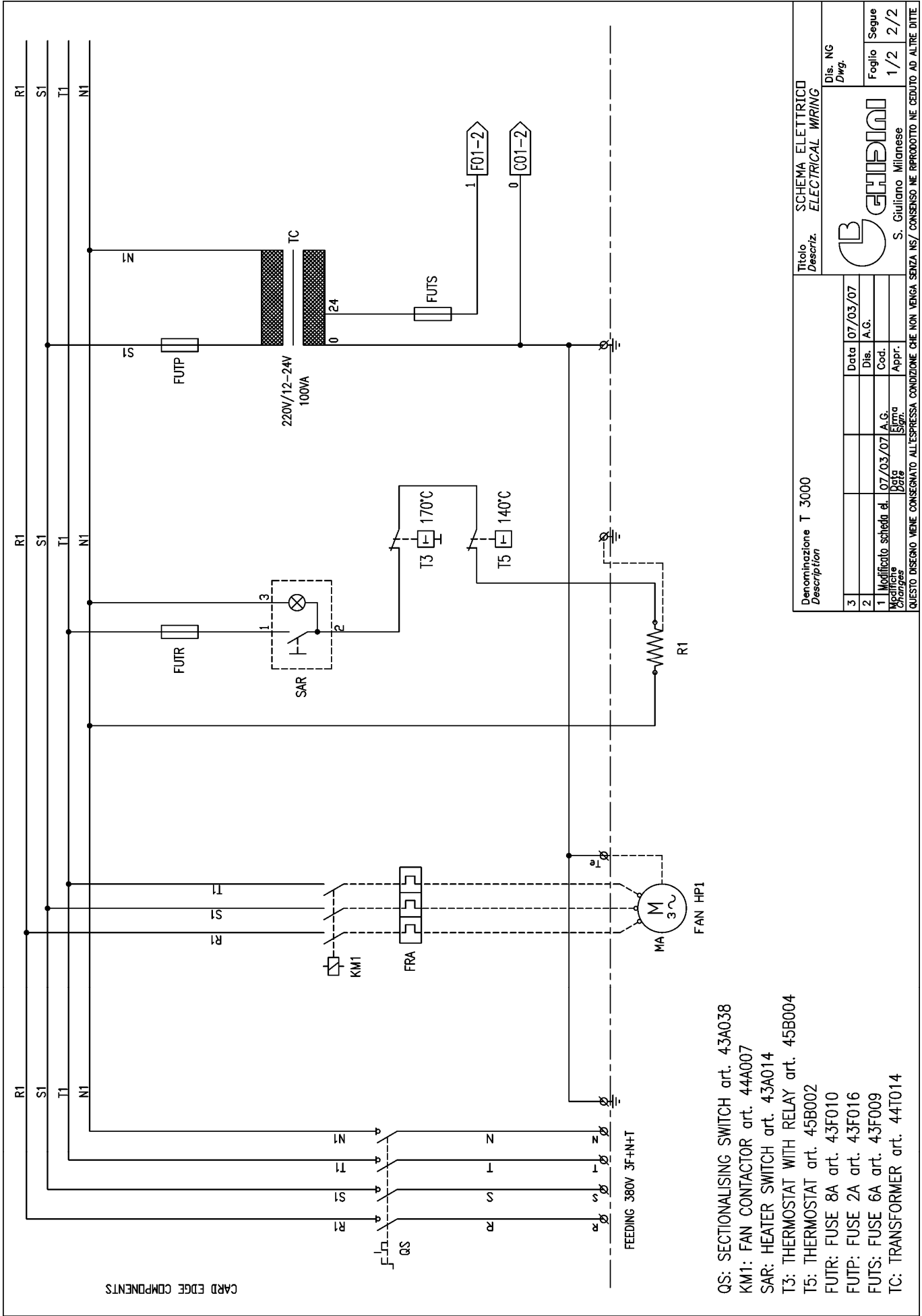
Titolo SCHEMA PNEUMATICO
Descriz. PNEUMATIC DIAGRAM

Dis. NG
Dwg.

Foglio 1/1
Segue

GHIPINI
S. Giuliano Milanese

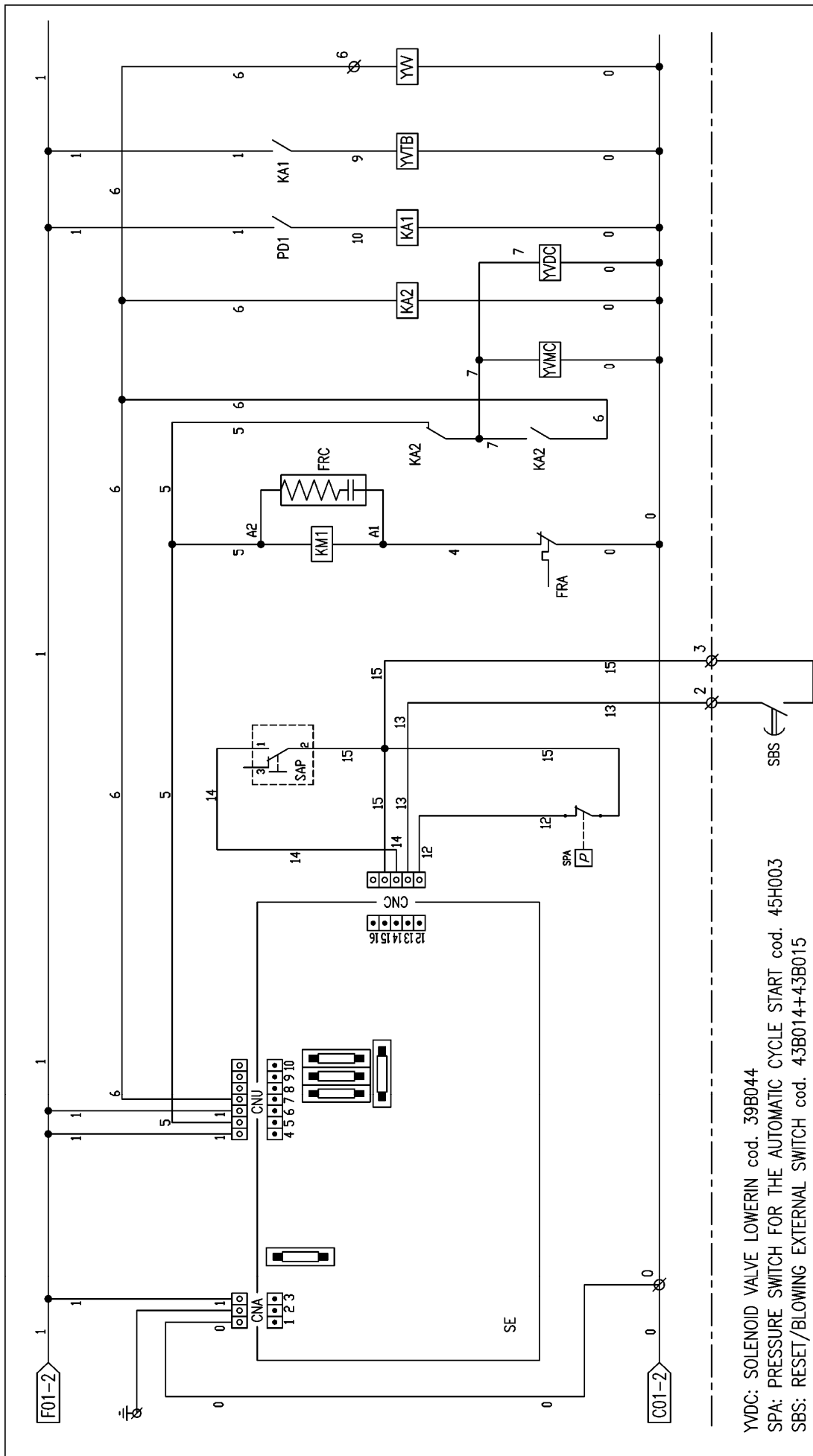
YDC: ELECTROVANNE "DESCENTE" cod. 39B044
VCEC: CARRIAGE EXCLUSION VALVE cod. 38A011
YVTB: TOPPER BENDING SOLENOID VALVE cod. 39A004
YVMC: CARRIAGE MOVEMENT SOLENOID VALVE cod. 39A004
RF: FLUX REGULATOR cod. 38A017
VS: RAPID DISCHARGE VALVE cod. 38A019
SPA: PRESSURE SWITCH FOR THE AUTOMATIC CYCLE START cod. 45H003



- QS: SECTIONALISING SWITCH art. 43A038
- KM1: FAN CONTACTOR art. 44A007
- SAR: HEATER SWITCH art. 43A014
- T3: THERMOSTAT WITH RELAY art. 45B004
- T5: THERMOSTAT art. 45B002
- FUFR: FUSE 8A art. 43F010
- FUTP: FUSE 2A art. 43F016
- FUTS: FUSE 6A art. 43F009
- TC: TRANSFORMER art. 44T014

Denominazione T 3000 Description				TITOLO Descriz.	
SCHEMA ELETTRICO ELECTRICAL WIRING				Dis. NG Dwg.	
3		Data	07/03/07		
2		Dis.	A.G.	Foglio	Segue
1 Modificato scheda el.		07/03/07	A.G.	1/2	2/2
Appr.	Data	Firma	Appr.		
QUESTO DISEGNO VIENE CONSEGNATO ALL'ESPRESSIONE CONDIZIONE CHE NON VENGA SENZA NS/ CONSENSO NE RIPRODOTTO NE CEDUTO AD ALTRE DITTE					





- YVDC: SOLENOID VALVE LOWERIN cod. 39B044
- SPA: PRESSURE SWITCH FOR THE AUTOMATIC CYCLE START cod. 45H003
- SBS: RESET/BLOWING EXTERNAL SWITCH cod. 43B014+43B015
- KM1: FAN CONTACTOR cod. 44A008
- YVMC: CARRIAGE MOVEMENT SOLENOID VALVE cod. 39A006
- KA2: CARRIAGE LOWERING RELAY cod. 44B012+44M006
- KA1: STEP BY STEP RELAY cod. 44D001
- YVTB: TOPPER BENDING SOLENOID VALVE cod. 39A004
- YV: STEAM SOLENOID VALVE cod. 39A018
- PD1: TOPPER BENDING SWITCH cod. 43B009
- FRA: FAN THERMIC RELAY cod. 44C010

Denominazione T 3000
Description

Titolo
Descriz. SCHEMA ELETTRICO
ELECTRICAL WIRING

3	Data	07/03/07
2	Dis.	A.G.
1	Modificato scheda el.	07-03-07 A.G.
	Appr.	Elma
		Stm

FRC: FILTER RC cod. 234029
SE: ELECTRONIC CARD cod. 25L041
SAP: PAUSE SWITCH cod. 43A014

Dis. NG
Dwg.
Foglio
Segue
2/2



12 MAINTENANCE PROCEDURES

No particular maintenance procedure is required, in case of anomalies or bad functioning, please contact the technical assistance for the necessary tests.

It is necessary to control periodically:

TEST	WORKING HOURS
Control and fill up oil in the lubricator group of the pneumatic circuit	200

The machine does not require any special equipment for control and/or maintenance activities. It is advisable nevertheless, the use of equipment and personal protections fit as per D.Lgs. 626/94 and in good condition (DPR 547/55) to avoid damages to persons or parts of the machine.

Make sure the electric and hydraulic feeding are off before any maintenance intervention.

13 DISPOSAL

During the machine maintenance, or in case of demolition of the same, do not disperse polluting parts in the environment. Make reference to local regulations for a correct disposal of the same. In case of demolition of the machine, it is necessary to destroy the identifying label and every other document related to the machine.

14 SPARE PARTS ORDERS INFORMATION

When you request spare parts you always have to mention:

The model and serial number of the machine, the quantity of pieces required, the reference of the item (data to take from the machine technical data label and from this manual).

For electrical components with tension and frequency different from V 220-380/50Hz (data to check on the label of the damaged item), please inform of the right tension and frequency.

Data, descriptions and illustrations contained on this manual are not in any way compelling.

The factory reserves the right to make modifications in any moment it should be deemed necessary, without the obligation to update this manual.

REF.	DESCRIPTION
274179	Topper bending padding kit
235081	Clamps sponges kit
42C012	Inflating Fan 1,5Hp (Optional)
38F001	Condensate Discharger (Optional)

15 MOVING AND TRANSPORT

Before the shipment the machine is accurately packed in a wooden cage. During the transport and storing of the machine, pay attention to the verso indicated on the packing (wooden cage or pressurized carton). At the receiving of the machine, check the package is not damaged and place the machine in a dry place.

16 GUARANTEE

For all GHIDINI products, a guarantee of maximum 12 months from the date on delivery is provided.

The guarantee is extended as follows:

In case of bad functioning it is necessary to contact your distributor GHIDINI and to report precisely the defect noticed, indicating model, serial number and, moreover, the condition of usage of the product in object.

At the receiving of the equipment and after an accurate analysis GHIDINI reserves the right to choose whether to repair or to substitute the product. If the guarantee for the product is still valid, GHIDINI distributor will provide for the necessary repairing or substitution at our expenses.

In case the product does not result defective, GHIDINI will decide whether to charge the customer with the costs sustained (logistic and so on).

This guarantee is to consider null if the damage comes from an improper usage of the product, negligence, normal usury, chemical corrosion, installation not conformable to the instructions expressly indicated or usage contrary to manufacturer recommendations. Eventual modifications, tampering and alteration to the equipment and its parts, made without GHIDINI written permission, relieve the same from every responsibility and free it from the bonds of the guarantee.

The parts subjected to normal usury and perishable are not covered by this guarantee.

Everything not explicitly indicated, is to be considered excluded from the guarantee, along with damages, lesions or costs deriving from defects in the same product.

The conditions of the validity of the guarantee are to considered accepted at the moment of the purchase of the equipment.

Eventual modifications or derogation of this guarantee are to be considered valid only in case of written authorization by GHIDINI.

17 DECLARATION OF CONFORMITY

Manufacturer:

GHIDINI
Company

Via Tolstoj, 24 – 20098 S. Giuliano Milanese (MI) ITALY
Address

+39 -02 -98.24.06.00
Telephone

We certificate that:

The machine:

Pneumatic Topper T 3000

- * Is made in conformity to the EEC directives concerning: machines (98/37/EEC), low tension (BT/73/23/EEC).
- * Is made for what is possible in conformity to the following rules and harmonized technical specifications: EN 292-1/2, EN 1050, EN 982, EN 11200, EN 60947, EN 894-1/2.

Managing Director

Roland Fleischmann

Product Manager

Name

GHIDINI S.R.L.

Company



May 2003

Signature

Date



Web site: <http://www.ghidini-gb.it> - E-mail: sales@ghidini-gb.it