CIERRECI SRL

Technical data communication system GPRS Pizza Machine 2.0

For both functions, the SMS in question has a text formatted as shown below.

MN [MMMM] **MS** [U] **MA** [AAA] **MC** [PPPPPP] **LT** [TTT] **LN** [SS] [HH: NN MM / DD / YYYY] **RT** [TTT] **RN** [SS] [HH: NN MM / DD / YYYY]

- **MN** : machine number (serial number machine)
- [MMMM] = identification code machine from 0000 to 9999, see Window maintenance program options.
- **MS** : machine status
- [U] = state machine (aka "MACHINE_STATUS"), from 0 to 6, 0 = Select product; 1 = Payment 2 = Processing, 3 = Out of service, 4 = Maintenance, 5 = Auto reset; 6 =Simulation.
- **MA** : machine allarm (code allarm)
- [AAA] = identification code alarm from 000 to 999; "???" Status by SMS.
- **MC** : machine number cycles
- [PPPPPP] = total amount of dispensed products (aka "PRODUCTS_COUNTER") from 000000 to 999999.
- **LT /RT** : left and right temperature (temperature of fridge left and right)
- [TTT] = temperature cold store SX / DX (aka "TEMPERATURE_FRIDGE1 / 2"), from -99 to +99; "LT" for fridge SX and "RT" for fridge DX.
- **LN/RN** : left and right number (remaining number of pizza left and right fridge)
- [SS] = amount of producible products present in the fridge SX / DX; involved only products contiguous, in the vicinity of the exit from the fridge, not past due or compromise; 00 to 99; "LN" for fridge SX and "RN" for DX fridge.
  [HH: NN MM / DD / YYYY] = next date and time of expiry products fridge SX / DX; involved only products contiguous, near the exit area of the fridge, not past due or compromises, before expiry date of all the products involved; "hours: minutes month / day / year ";" 00:00 00/00/0000 "in the case of data not available.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

CE - DECLARATION OF CONFORMITY

CIERRECI S.R.L.
Via PRANDI, 2 – 42019 SCANDIANO (RE)

DECLARES UNDER ITS OWN RESPONSABILITY
THAT THE MACHINE

Model: **C&V 2.0 UL**
Function: **Pizza cooking vending machine**
Serial Number n°: **026/2016** **Code data: B-200D**

to which this declaration refers
COMPLY WITH THE FOLLOWING
APPLICABLE DIRECTIVES:

"Machinery" EEC Directive, 98/37
"Foodstuffs" EEC Directive, 89/109
"Low Voltage" EEC Directive, 2006/95
"Electromagnetic Compatibility" EEC Directive, 2004/108
"2010 ADA Standards for Accessible Design"
UL - NSF see next pages for the certificate of compliance

Reggio Emilia, March 01, 2016
Signature:
Pifferi Mauro - Chairman

Signed

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Revision n° 18

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

CERTIFICATE OF COMPLIANCE

Certificate Number	20130111- E343413
Report Reference	E343413-2013-01-09
Issue Date	2013-JANUARY-11
Issued to:	CIERRECI SRL VIA PRANDI 2 42019 BOSCO DI SCANDIANO RE ITALY
This is to certify that representative samples of	Refrigerated Vending Machines Vending Machines of a type Refrigerated and Cooking Vending Machine. Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.
Standard(s) for Safety:	UL 541 – Refrigerated Vending Machines, CAN/CSA-C22.2 No. 128-95 – Vending Machines, UL 197 - Commercial Electric Cooking Appliances, CAN/CSA-C22.2 No. 109-81 - Commercial Cooking Appliances.
Additional Information:	See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Listing Mark for the US and Canada should be considered as being covered by UL's Listing and Follow-Up Service meeting the appropriate requirements for US and Canada.
The UL Listing Mark for the US and Canada generally includes: the UL in a circle symbol with "C" and "US" identifiers; the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product.

William R. Carney, Director, North American Certification Programs
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at www.ul.com/contactus

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

NSF International

789 N. Dixboro Road, Ann Arbor, MI 48105 USA

RECOGNIZES

Cierreci SRL

Facility: Scandiano (RE), Italy

AS COMPLYING WITH NSF/ANSI 25 AND ALL APPLICABLE REQUIREMENTS.
PRODUCTS APPEARING IN THE NSF OFFICIAL LISTING ARE
AUTHORIZED TO BEAR THE NSF MARK.

Certification Program Accredited by the American National Standards Institute

Certification Program Accredited by the Standards Council of Canada

This certificate is the property of NSF International and must be returned upon request. This certificate remains valid as long as this client has products in Listing for the referenced standards. For the most current and complete Listing information, please access NSF's website (www.nsf.org).

November 14, 2016
Certificate# C0176146 - 01

Sarah Krol
Global Managing Director, Food Safety Product Certification

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Index

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Chapter 1. Introduction

The purpose of this manual is to convey all the necessary information for a safe and competent use of the **"COOKING VENDING MACHINE" hot pizza vending machine,** of which this document is an integral part.

The following data is aimed EXCLUSIVELY at specialists, those able to manage the product in a way that is safe for people, the machine and the environment, fully respecting established directives.

This document does not detail information regarding assembly, dismantling, extra-ordinary maintenance, repairs and installation of any accessories, as these operations should always and exclusively be carried out by the Manufacturer (as indicated on the cover).

In order to use the product correctly it is necessary to ensure that the manual remains legible and well preserved. In case of damage, or simply for a more detailed technical or operative understanding, directly consult Technical Assistance.

The manual is delivered at the same time as the "COOKING VENDING MACHINE" hot pizza vending machine, constituting an integral part; and must accompany it even in the event of transfer. It must be kept for the complete operational lifespan of the vending machine (from when it is put on the market to its demolition) and stored in a safe, protected place. In the event of loss, a request should be made to CIERRECI s.r.l., who at a charge will provide a duplicate.

This technical document fully illustrates the main features of "COOKING VENDING MACHINE" hot pizza vending machine in order that the purchaser is able to get optimal performance and operate in safe conditions throughout its entire functioning existence. It is aimed at all workers involved in the handling, transportation, installation, operation, adjustment and decommissioning of the "COOKING VENDING MACHINE" hot pizza vending machine, as well as those responsible for its maintenance. To this end it is essential that such operators carefully read the Instruction Manual on its use and maintenance before carrying out any work on the "COOKING VENDING MACHINE" hot pizza vending machine.

CIERRECI s.r.l. declines any responsibility for damage caused to individuals and/or the environment arising from failure to comply with the directives contained in this manual.

CIERRECI s.r.l. reserves the right to make, at any time and without notice, any modifications and improvements deemed necessary for commercial and/or technical reasons; therefore the data and information listed below may be modified and/ or updated.

1.1 Warranty

CIERRECI s.r.l. guarantees that the automatic "COOKING VENDING MACHINE" for hot pizza has been successfully tested in its workshop.

We guarantee that all the goods that we produce and sell are marked by our trademark and faultless for a period of 12 (twelve) months from invoice date. We do not guarantee that our products or parts of them are suitable for any other use.
The Buyer have to inform us within 8 (eight) days from finding any concealed fault or within a date when a diligent Buyer ought to have found it, and within 8 days from goods delivery in case of a defect immediately found. The lack of written notice from the Buyer within the agreed time-limit will relieve us from any responsibility.
Any legal action shall be taken by the Buyer within 12 (twelve) days from the goods delivery date.
Our responsibility according to this guarantee is limited to the only replacement or free repairing of faulty parts, exclusively at our headquarters. Transport costs are at the expense of the Buyer. The guaranteed details are marked by proper coupon. Replaced materials are still in our possession. Our possible repair service at the Buyer or in a place different from our headquarters lead the Buyer to pay all the expenses concerning travel, board and lodging, and whatever else is necessary to transfer our staff in charge.
It is assumed that the guarantee is not valid when products or parts of them: (i) are subject of the wearing effect of use, as for example locks, lamps, glasses, devices and

external cover, parts made of glass, plastic, rubber, (ii) have a natural life that is inferior compared to that of this guarantee, (iii) have not been properly stocked, installed, used, maintained, repaired, or have been damaged by the corrosive action of not suitable detergent and additives, or have been modified or repaired by a third party, or have an irregular voltage power, (iv) have been involved in a damaging event of which we can not be considered responsible. In any case, for all products and parts covered by the guarantee, any delays in providing the service do not allow payment suspension. In case of payment delays or Buyer insolvency, even if partial, we are exempt from the guarantee.

1.2 General Precautions

In order to ensure a correct operation of the refrigerator compressor, a minimum space of 25cm (9,84252 inches) between the machine rear part and a wall is strictly required.

The vending machine has been designed for internal use.

IT IS FORBIDDEN TO PLACE THE MACHINE IN AN AREA WHERE THE AMBIENT TEMPERATURE IS LOWER THAN 0°C (32° F) OR UPPER THAN 38°C (100.4°F) - EVEN FOR A BRIEF PERIOD TIME.

Before any work is carried out on the machine, always ensure in advance that the contents of the manual are clearly understood. The non-compliance of the requirements contained therein exempts the Manufacturer of any liability. If any clarifications are needed, apply directly to the Manufacturer.

The use of the machine discussed in this manual is outlined in chapter 2. Any variation of use or non-respect of the technical parameters listed henceforth may constitute a danger

for persons and/or objects. Any use not included or clearly deducible in the pages of the manual is to be considered UNADMISSABLE.

Handling, lifting, installation, use and maintenance must be carried out by qualified, psychologically and physically competent personnel, in full compliance with the instructions below and in accordance with current safety rules.
Check that the supporting surface is adequate to bear the weight of the machine prior to the installation phase.

It is absolutely prohibited to get close to the machine whilst wearing inappropriate clothing (e.g. ties, loose clothing, etc) and personal items (bracelets, watches, etc).
In the event the operator has long hair, it is imperative it is tied back in a way that it cannot get caught in the moving parts of the machine.
Do not get in or near moving parts without engaging the emergency controls of the machine. In any case, follow the requirements set out by the Manufacturer.

It is strictly forbidden to tamper with equipment and/or safety devices.
Any and all maintenance must be made by specialised personnel and directly authorised by the Manufacturer.
Personal protective equipment as described below should always be provided. Follow all current health and safety regulations.
Ensure there is adequate lighting in the area surrounding the machine and keep the vicinity uncluttered and clean.
It is strictly forbidden to place and/or leave on the machine or its subsidiary parts and/or its moving parts, any tools, equipment, work remnants or anything else that may potentially be harmful for people or effect the integrity of the machine or its product. Moreover, prior to initiating the function cycle check that no such hazards exist.
All operations of installation, dismantling, assembly, extra-ordinary maintenance and product repairs etc., must always and exclusively be carried out by specialised personnel who are directly authorized and/or coordinated by the Manufacturer.

It is strictly forbidden to remove or damage data-plates affixed to the machine. In the event of damage – replace with the utmost urgency by applying directly to the Manufacturer.
Before starting the machine, always ensure in advance that the materials are correctly fastened.
Always ensure in advance that all electric cables used are the correct diameter and length and fully respect the recommendations set out hereafter.
In the event that cables of the main installation should cross the area surrounding the machine and/or adjacent ground, take all the necessary safety and protection measures.

It is strictly forbidden to change the voltage values established at the time of testing.

Before starting any checks and maintenance, it is needed to shutdown Windows 7 operating system through control panel.

Subsequently, turn off the power by switching off the following devices:

- ***SPS (Standby Power Supply) located in the PC area (see Figure 33 at page 31);***
- ***Switchboard main switch and switch QF1 located in the machine rear side (see Figure 37 at page 34);***

Anyhow, do perform control and maintenance only after having ensured that the machine has been effectively switched off.

Operator's equipment

Any operation involving use, handling, maintenance and cleaning must be carried out in conditions of maximum safety, adopting the individual safety measures identified by the risk analysis performed by the user company in line with the measures set out in the **current and local** safety regulations (in particular the Law Decree 81/08).

Specifically, it is necessary to use:

- **Protective gloves** when handling any mechanical parts overheated, pointed or sharp.
- **safety shoes**.

1.3 Waste disposal and decommissioning of machine

Machine 2.0 consists mainly of steel, aluminium, ferrous materials and other materials not metallic (rubber tubes, plastic etc.) that are not particularly dangerous. Their disposal, therefore, does not require any particular safety measures other than those conventionally adopted for this kind of waste.

Oils, fatty and other waste products, must be disposed of in compliance with environmental and hygiene standards of the country in which the machine is installed.

Chapter 2. Machine Description

2.1 Identification

The essential data for the machine identification are deduced by the data label fixed on the structure's external surface.

WARNING: It is strictly forbidden to remove or damage the data label. In the event of damage, always and exclusively inform the Manufacturer.
Any use, maintenance or cleaning operation must be carried out in conditions of maximum safety, adopting the necessary means of protection (helmet, gloves, protective shoes, overall, glasses etc.). In any event, follow the current safety regulations.

The identification label (or data plate) is placed on the machine back side, please see the 2 sample labels:

Ul certification label (Fig.1).

CIERRECI s.r.l.

Via Premuda 30 - 42100 Reggio Emilia - ITALY
Factory Location: Via G. Prandi 2 - 42019 Bosco di Scandiano (RE)
Tel. +39 0522 342171 Fax +39 0522 343070

c UL us
LISTED
REFRIGERATED VENDING MACHINE
E345413

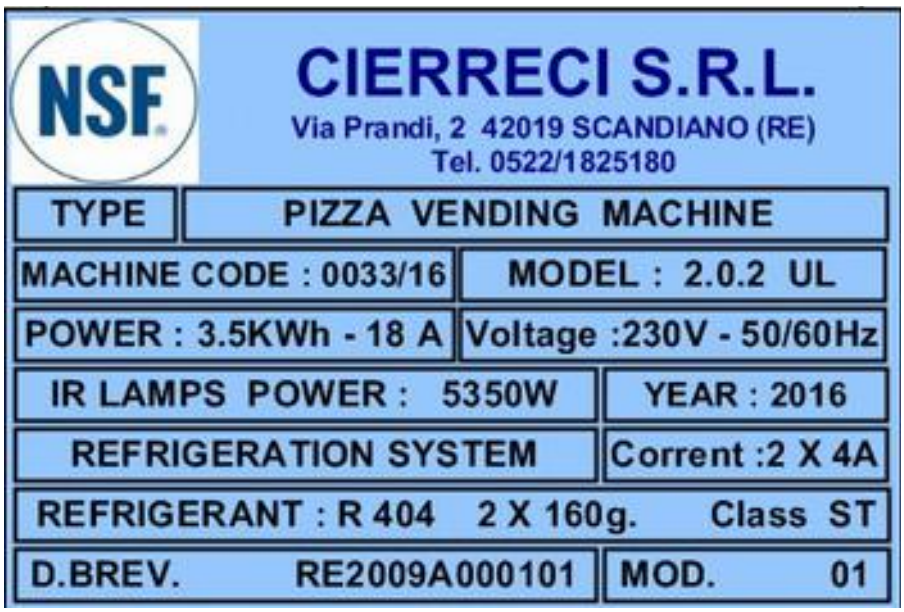
TYPE:	COOKING VENDING MACHINE		
SERIAL NUMBER: 6003/13		MODEL: 3.0 UL	CODE DATA: A-2044
MARKINGS	All Products:		
Nameplate	See Sec. Gen. for manufacturer & materials		
Electrical Rating (All Units):			
	Volts:		110-120
			220-240
	Frequency:		60
Electrical Rating (Perm-Connected Units):			
	Phase:		1
	Compressor1_A:		2.7
	Compressor2_A:		2.7
	Upper Oven Lamp_A:		12.9
	Lower Oven Lamp_A:		11.5
	Cond Fan Motor_A:		0.35
	Cond Fan Motor_A:		0.35
	Evap Fan Motor_A:		0.14
	Evap Fan Motor_A:		0.14
	Oven Fan_W and A:		120: 2.7
	Type 1 connection 110-120 V:		
	Min Cir Ampacity_A:		45
	Max Overcurrent Fuse or Circuit Breaker Size:		45
	Type 2 connection 220-240 V:		
	Min Cir Ampacity_A:		25
	Max Overcurrent Fuse or Circuit Breaker Size:		25
Locations:	For Indoor Use Only		
	Refrigerated Vending Machines Only		
Refrigerant:			
	Type:		R404a
	Amount, oz (gr):		5.64 (160)
Design Pressure, psig:			
	High Side:		320
	Low Side:		174

"Use Copper Conductors Only"

Fig. 1

NSF certification label (Fig.1b).

11-14-



File NSF C0176146 2016

Fig. 1b

2.2 Intended use

The goal of this machine is to cook and deliver pizzas in a completely automated process.
The raw product is loaded, by specialists, into one or two vertical storage sections called compenser placed inside the machine's refrigerators (it depends if the vending has one or two fridge unit).
An automated system transfers the pizzas from the refrigerator zone to the oven cabinet and finally to the output area.

The good can be purchased by using money or credit cards.

It is strictly forbidden to use the machine for any purpose different to what indicated in this manual.
Moreover, it is absolutely forbidden to use the machine in any manner that conflicts with the technical characteristics listed below.

The "COOKING VENDING MACHINE" works exclusively with pizza boxes provided by CIERRECI s.r.l.
CIERRECI s.r.l. declines any responsibility for any damage due to the use of NOT suitable products.
All parts of the "COOKING VENDING MACHINE" that are in contact with food on an ongoing basis, not accidentally, are subject to this contract.

2.3 Vending Machine Outlook and information

The Vending Machine 2.0 is meant to be made with one or two fridge unit as needed (Fig. 2a, 2b).

Fig. 2a **Two fridge unit machine**

Two fridge Vending Machine Data Sheet	measures
Dimensions	2010x1710x840 mm
left refrigerator sumsung videos added thickness	92 mm
left refrigerator sumsung videos added weight	12 kg
Loading system	forklift
Movement	Casters / wheels
Weight	480 Kg weight without pizza
Capacity	40 pizzas each fridge
Refrigerator temperature	-18-20° C
Cooking temperature	250°/380°C manageable
Coking time	About 3 minutes
Full delivering time	10/30 sec. over 3 minutes
Needed voltage	220/240 V AC/DC - 50 Hz
Needed power	4 Kw

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig 2b **One fridge unit machine**

One fridge Vending Machine Data Sheet	measures
Dimensions	2010x1070x840 mm
left refrigerator sumsung videos added thickness	92 mm
left refrigerator sumsung videos added weight	12 kg
Loading system	forklift
Movement	Casters / wheels
Weight	340 Kg weight without pizza
Capacity	40 pizzas
Refrigerator temperature	-18-20° C
Cooking temperature	250°/380°C manageable
Coking time	About 3 minutes
Full delivering time	10/30 sec. over 3 minutes
Needed voltage	220/240 V AC/DC - 50 Hz
Needed power	3.5 Kw

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

On the central door are mounted the following accessories (Fig. 2a, 2b,2c,3):

- Upper lock closing.
- 12 inches Monitor for the interaction between the machine and the client.
- Touch screen button to select left fridge pizza.
- Touch screen option to select a language.
- Touch screen key to return change.
- Touch screen button to select right fridge pizza.
- Wanted payment system device.
- Pizza exit slot.
- Lower lock closing.

On the left refrigerator door it is placed a – 220V - 40 inches monitor - for the **Documentation will be supplied by Cierreci.**

The two fridges machine unlike the single units vending has a second refrigerating cell placed to the right of the oven compartment.
Each fridge has a proper compressor and its documentation will be supplied by Cierreci (see the Appendix).

2.3.1 Description machine single parts

Machine central door – basic front view to be customized (Fig. 2b,2c)

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 2c

Within each freezer is located a vertical warehouse storage which can contain up to 40 boxes.
The choice of pizza and its purchase is activated by products selectors.
The interface software warns the consumer when both refrigerators are empty and then it inhibits the acquisition of money.

The freezers are maintained at -18 / -20 ° C (-0.4 / -4 ° F).

All components that come in contact with edible items are made of parts conform to the European Community and international food industry.

NOTICE:

This vending machine is designed for the U.S. market, all materials are compliant with the NSF regulatory as described in the following pages.

The final cooked pizza release takes place through the exit slot (made of plastic approved by the NSF 51) positioned in the front of the machine, thus avoiding the direct contact between the user's hands and the hatch closing (Fig. 3).

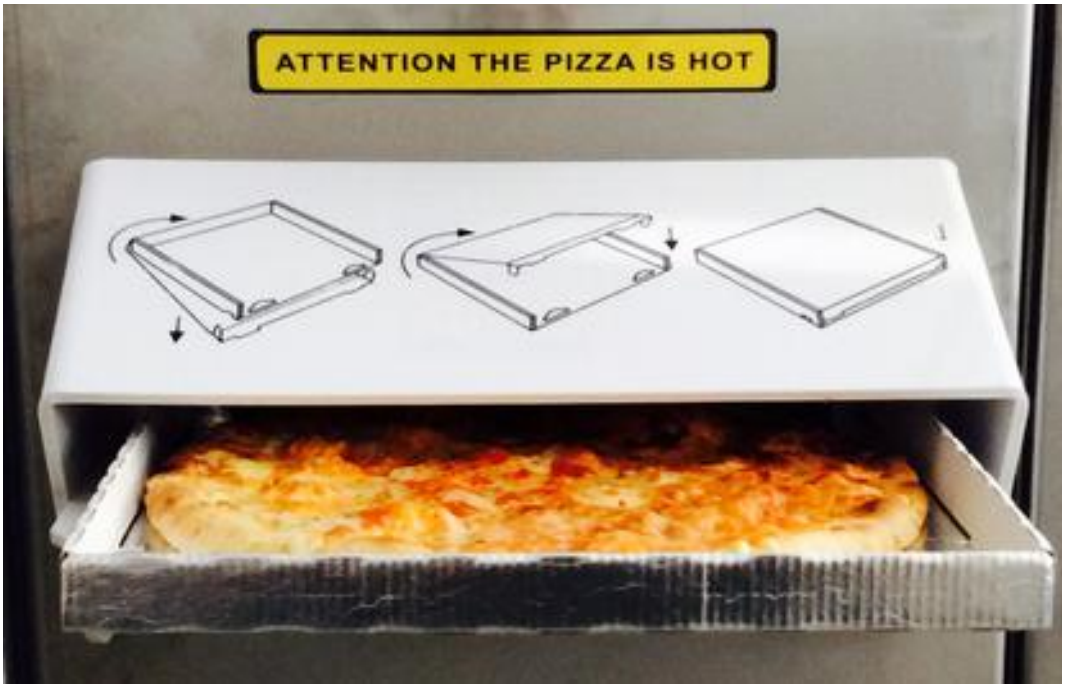


Fig. 3 – Pizza exit slot

Machine central door – Internal view (Fig.4) and PC area (Fig.5).

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 4

Fig. 5

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig 10 Pusher and Photocell last box on pate

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

An automatic defrosting system has been developed to avoid the pusher gears freeze. For more details, see the Appendix.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig.

Ejector – Mobile oven - Elevator - Gates

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

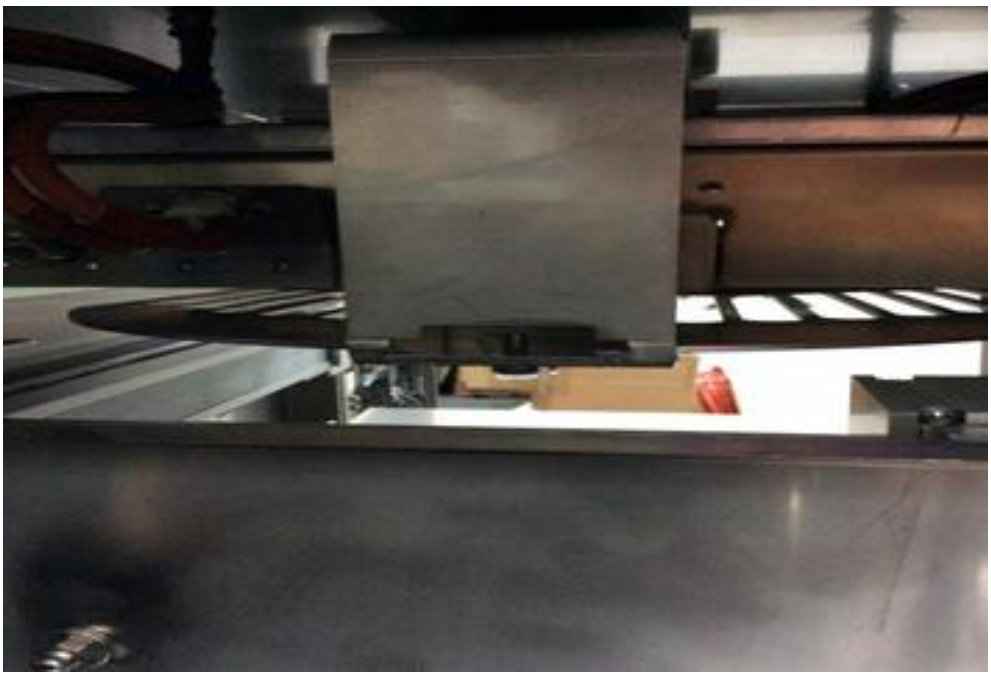


Fig. 14 ejector and grill – backward position

Fig. 15 ejector – forward position

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 16 Grill – backward position

The upper oven can be disassembled to allow deeper cleansing, see the Appendix.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 17 Grill – forward position

The Vending machine is provided of a stainless steel grill coated by NanoXham approved by the NSF 51 regulatory.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 18 Upper oven

Fig. 19 Trap heat above upper oven

Foto Termocoppia nel forno superiore

Fig. 20 Lower oven

Fig. 21 elevator - "Pizza load" position position

Fig. 22 elevator - "ejector" and "rest"

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

fridge to

Fig. 24 gate for exit pizza from the fridge to the elevator

Fig. 25a Pizza exit hatch closing

Fig. 25b Pizza exit hatch opening _

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 26 Pizza exit hatch cover _

*Fig. 27 Left fridge cooling unit**

**** For fridge units more details, see the Appendix.***

2.4 Overall dimensions and weights

Two fridge unit Vending :

- *Height: 2010 mm*
- *Width: 1710 mm*
- *Depth: 840 mm*
- *Weight: 480 Kg*
-

One fridge unit Vending :

- *Height: 2010 mm*
- *Width: 1070 mm*
- *Depth: 840 mm*
- *Weight: 840 mm*
-

left refrigerator video added weight : 12 Kg
left refrigerator video added width : 92 mm

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Transport packaging weights and sizes are as follows

- *Wooden packaging* weight *150 Kg*
- *Full size, machine plus wooden box 2180x1700x850 mm*

2.5 Security devices

The vending machine is equipped with a number of safety devices designed to minimize hazards to the operator. It's however important to recognize that it is impossible to eliminate all risks connected to the machine. Therefore maximum care should be shown by the user in all phases of use. Particular emphasis is given to the risks listed in chapter 5. Listed below some security devices :

A. Fixed protection shields to isolate all the machine internal parts, mainly in the product movement and oven areas (Fig. 31a,31b);
B. anti-intrusion locks (Fig.32a) with detection sensor state (only on lower lock Fig. 32b);
C. SPS which among the other things allows the machine to complete the cooking latest cycle in progress in case of power supply failure (Fig. 33);
D. safety switches that prevent the machine to work when the doors are opened (Fig. 34);
E. key switch interlocked supplied only to the technician to perform manual maneuvers when testing the machine mechanical parts (Fig. 35a, Fig. 35b);
F. 200 C° (392F°) bimetallic thermostat placed in the upper oven (Fig. 36a) and 200 C° bimetallic thermostat placed in the lower one (Fig. 36b), to protect the ovens lamps control circuits;
G. Pizza box detection photocell, to verify the carton box actually lies above the elevator plate and then the pizza is consequently placed above the grid before proceeding with the cooking process (Fig. 36c);
H. anti-collision control sensors to prevent damages between the lift elevator (Fig. 36d) and the lower oven (Fig. 36e);
I. electrical components comply with the C.E.E. and U.S.A. standards (Fig. 37);

Fig.31a Monitor and front view

Fig.31b Carter and rear view

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 32a lower lock

Fig. 32b sensor auto cycle

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 33 SPS

Fig. 34 magnetic sensors fridge door

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 35a manual position *Fig.35b auto position*

Key enabling manual handling of mechanical parts of the oven and refrigerator area.

Fig. 36a 392F° bimetallic thermostat *Fig.36b*

Temperature sensor type J - iron - constantan

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 36c photocell box on elevator after leaving pizza on grill

Fig. 36d, sensor to avoid elevator collision - Fig. 36e, sensor to avoid lower oven collision

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 37, electric panel 100/240 V AC- power

Chapter 3. Transport and installation

WARNING: The operations described below are to be carried out, always and exclusively, by specialized personnel, in compliance with the manual and the health and safety local regulations.
Moreover, transport and/or movement should be carried out only after a proper consideration of the journey conditions, lifting issues, distance, environment matters and location characteristics in which the machine will be placed.

WARNING: The transport carrier as well as the lifting tools must be chosen taking into full consideration the vending machine physical characteristics such as, mass, size, weight, points of weakness and strength.
the Loading and unloading operations must take place in line with local regulations and the instructions provided in the manual.

3.1 Lifting

A forklift is recommended to lift and move the machine 2.0,
in this case please take the following precautions:

• Select a forklift suitable for least 500 kg. at least (1100 lbs).
• The lifting process must be assisted by a second operator to provide instructions to the forklift driver.
• Space the forks of the truck so as to ensure the stability of the taking.
• Collect and duly lock the power cord so not to general cause hindrance.
• Load the machine from its back side and make sure that is not connected to any electrical outlet.
• Perform movements with the forks as low as possible.

It is strictly forbidden to balance the machine by climbing on it or putting material or foreign objects on top!
It is absolutely forbidden to leave the load suspended!

For brief movements, once the machine is put down on the floor it can be moved by properly using its wheels (Fig. 38).

Fig. 38

NOTE: For the U.S.A. market, the machines have been equipped exclusively with movable wheels (casters) in accordance with the regulatory NSF2.

3.2 Installation

To ensure the machine a greater precision and the best performance, it is important that it is installed in a location with a low level of vibration, dust and fumes and with a moderate temperature and humidity.
Installation should be done on a surface as flat as possible and devoid of any slopes or unevenness.

Once grounded, the machine must be stabilized using the special brakes on the front wheels (Fig. 38).

This machine must not be installed in an atmosphere that is potentially explosive.

The installation surface should be resilient to bear the vending weight of 500 kg. (1100 lbs) plus a certain number of customers.
An adequate space must be left around the machine, taking into account the need to access for maintenance, for loading the fridges and similar.
Please refer to the overall dimensions given in chapter 2.4
The machine should be placed in an area which is adequately illuminated.The power supply cable must be as short as possible and put in an area where it will not be damaged.

3.3 First steps for the machine start-up

a) Remove all the protections from lamps and oven that were used for transportation.

b) Remove the metal shield protecting the oven using the socket wrench #8 as supplied, Fig. 39.

Fig. 39

c) Remove the ovens glasses protection using the socket wrench #7 as supplied, Fig. 40,41.

Fig. 40

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

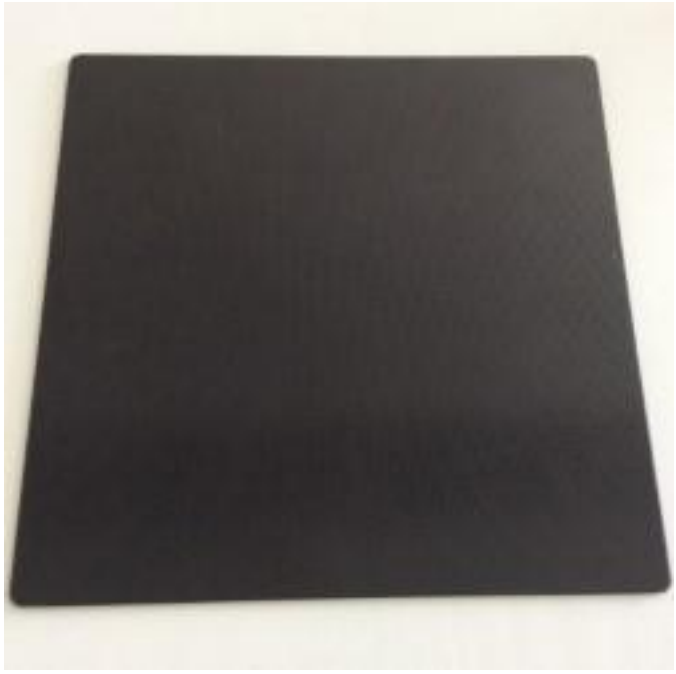


Fig.41 Nextrema Glasse 718-13TK 278x278x4 mm

d) Insert the glasses into the ovens Fig. 42a, 42b.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 42a

Fig. 42b

e) Connect the machine cable to the electricity panel socket, Fig. 47.

f) Turn the SPS on (**Standby Power Supply**), Fig. 43.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. *43 SPS*

g) Load the fridges of pizza **(see the appendix for details)**.

h) Update the fridge load storage PizzaCookingStudio page by writing number of pizza, its expiring date and its identification codes, Fig. 44 **(see the Appendix)**.

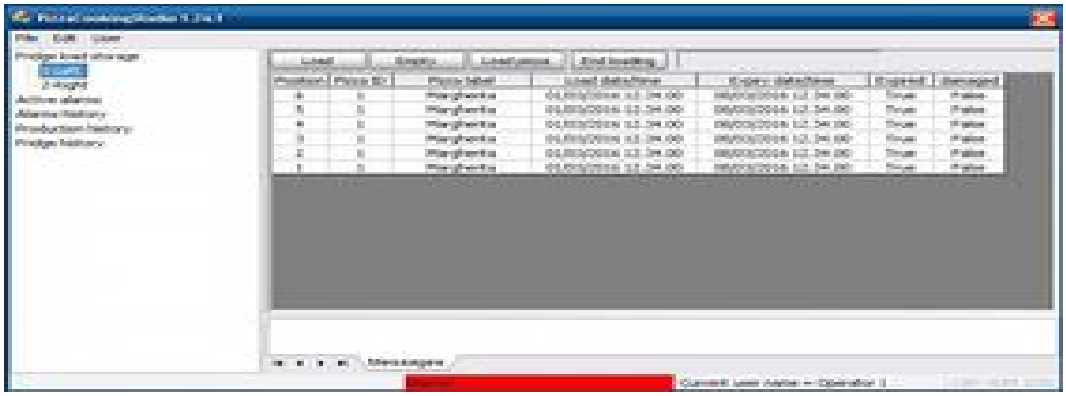


Fig. 44

i) Close the central machine door and order an automatic restart turning the lower key.

3.3.1 Connection to external power sources

CAUTION: Automatic machine of Class 1, requires protection for indirect contact with the installer, any operation of wiring and / or connection to the electricity net should be done always and exclusively by specialized service personnel.

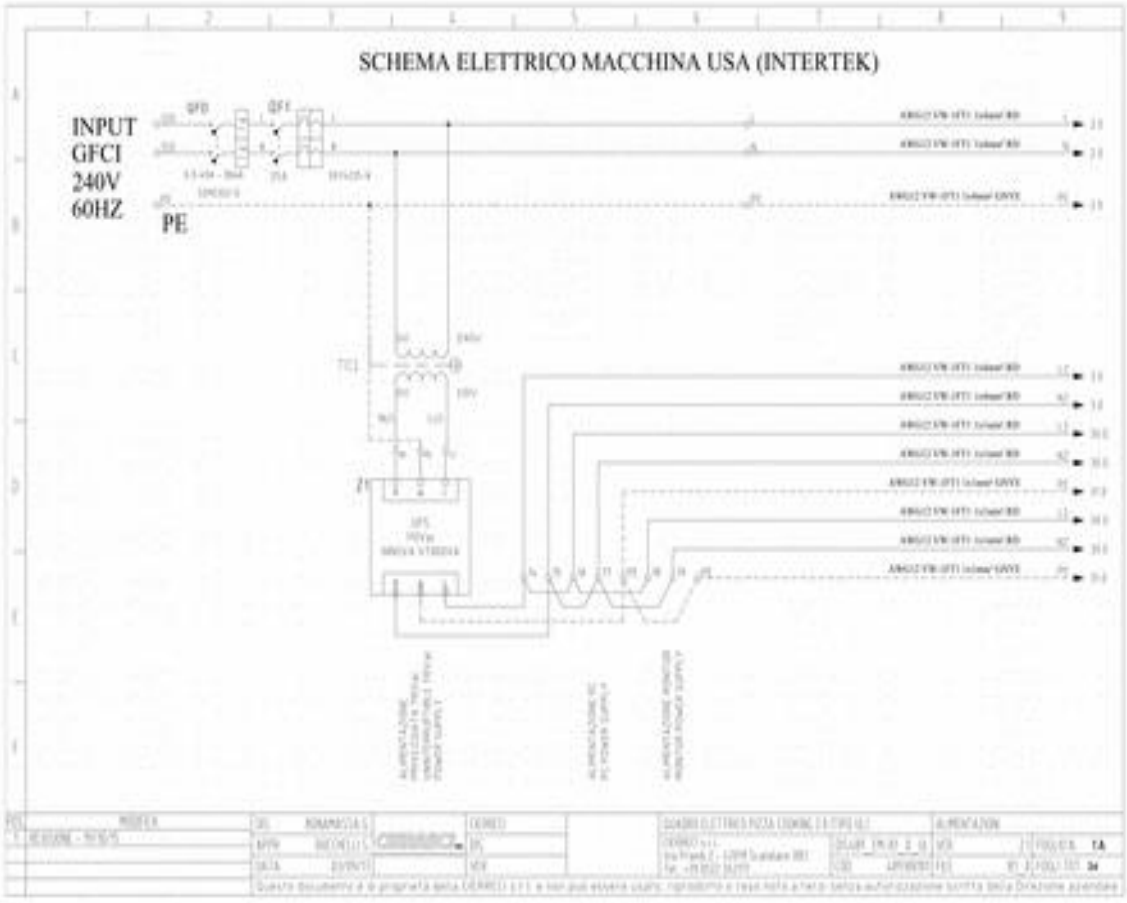
Please select a connection mode according to power supply voltage of your location area.

The Machine needs a 25A bipolar switch of Class D when connected to the power.

3.3.1a *Connection mode for areas at 220-240 Volt AC, 50/60Hz*

Supply the machine with voltage net power of 200-240 **Volt AC,** sticking to diagram showed in **"Wiring Diagram book" – Enclosure Sheet n.1, as below:**

POWER SUPPLY: 200-240 Volt AC (20A)
TOTAL POWER: 4 KW



Connect the power supply cable to the terminal passing through the cable duct, Fig. 45.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

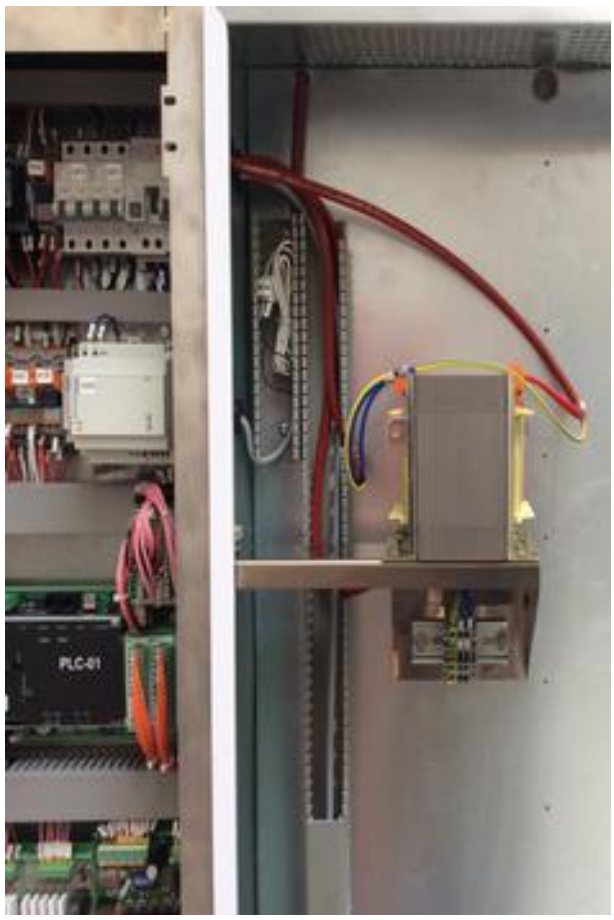


Fig. 45

To connect the net power supply wire to the machine use the cable gland and the cable duct already set as shown in Fig. 46.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 46

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

- Make sure that the machinery is efficiently grounded and that the line is protected by a magneto-thermic switch and by a **G.F.C.I.** (**ground fault circuit interrupter** properly calibrated for 0.03 A) Fig. 47.

Fig. 47

- When Out-door, its strongly suggested to arrange for a further equipotential grounding, connected to the lower rear part machine terminal.
  Please look at the symbol. (Fig. 48).

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 48 Additional ground connection Min 6mm or Style 5016 AWG 10

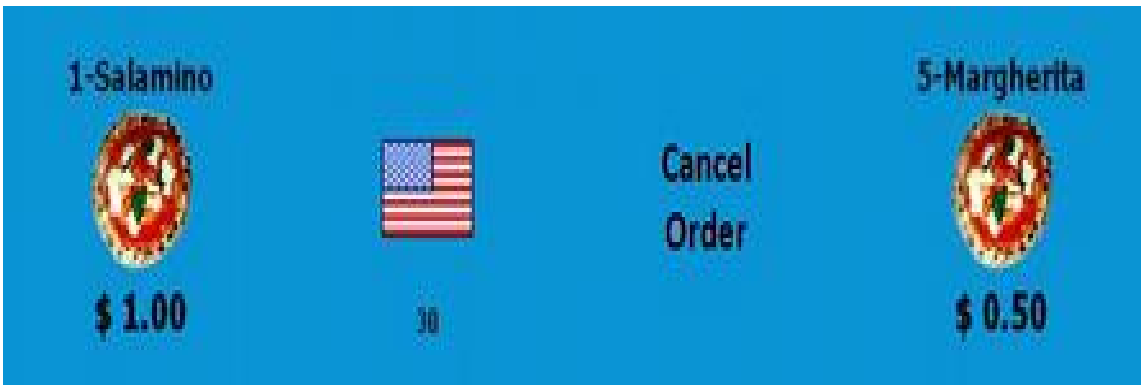
Chapter 4 Machine use

IMPORTANT: the machine starts working after it has been installed and connected to the external power source, as mentioned in the previous chapter.

4.1 Main commands

The machine management interface PizzaCookingStudio works through XP Windows operating system.
The main commands refer to the functional keys placed on the display lowest part (Fig. 50).
To set cooking recipes and machine parameters, connecting a keyboard and a mouse to the machine internal PC.
In the following chapters more detailed information can be found.
PC, Console key, Fig. 49.

Fig. 49



Screen bottom functional keys Fig. 50

4.2 Homepage system

When opening the front door, the display shows a homepage which includes:

- **Tree menu** on the left to access to all system functions;

- **Fridge Loading window** to (Fig. 51, 52).

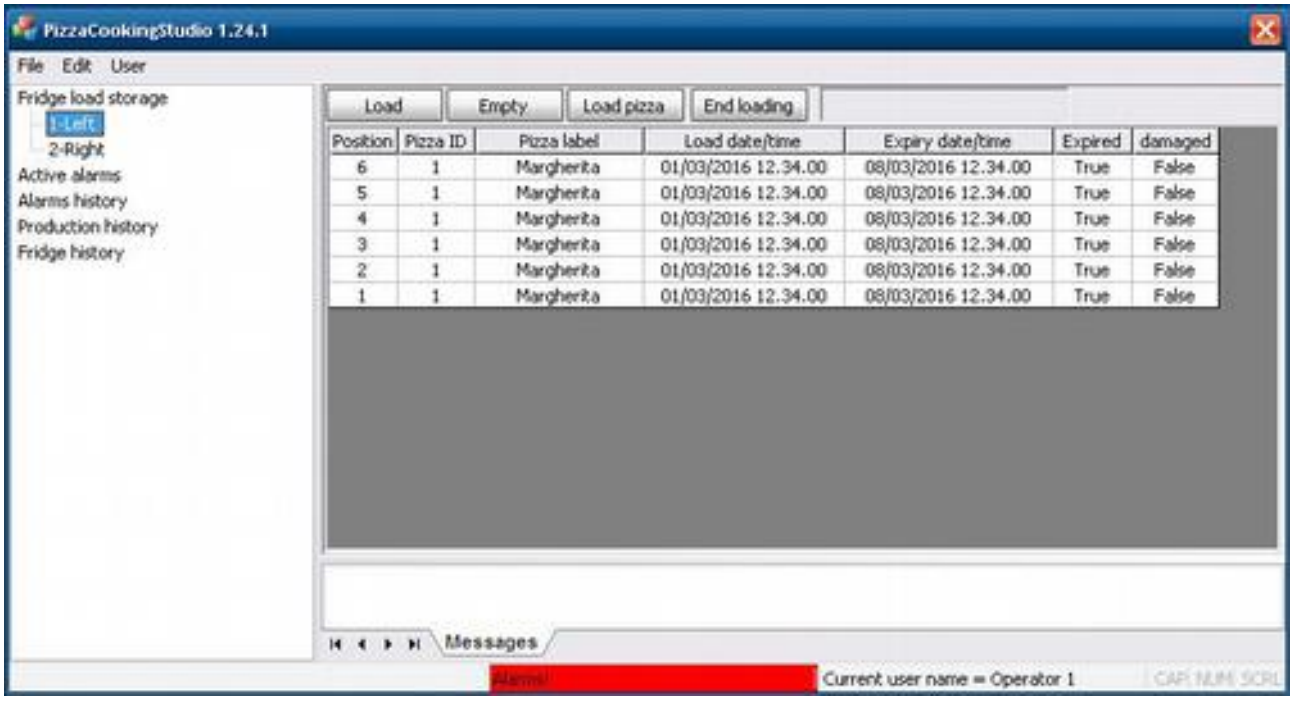


Fig. 51

To see how to properly put pizzas into the storage and how to load the machine by software, see the Appendix, page 139.

Fig. 52

4.3 Tree Menu

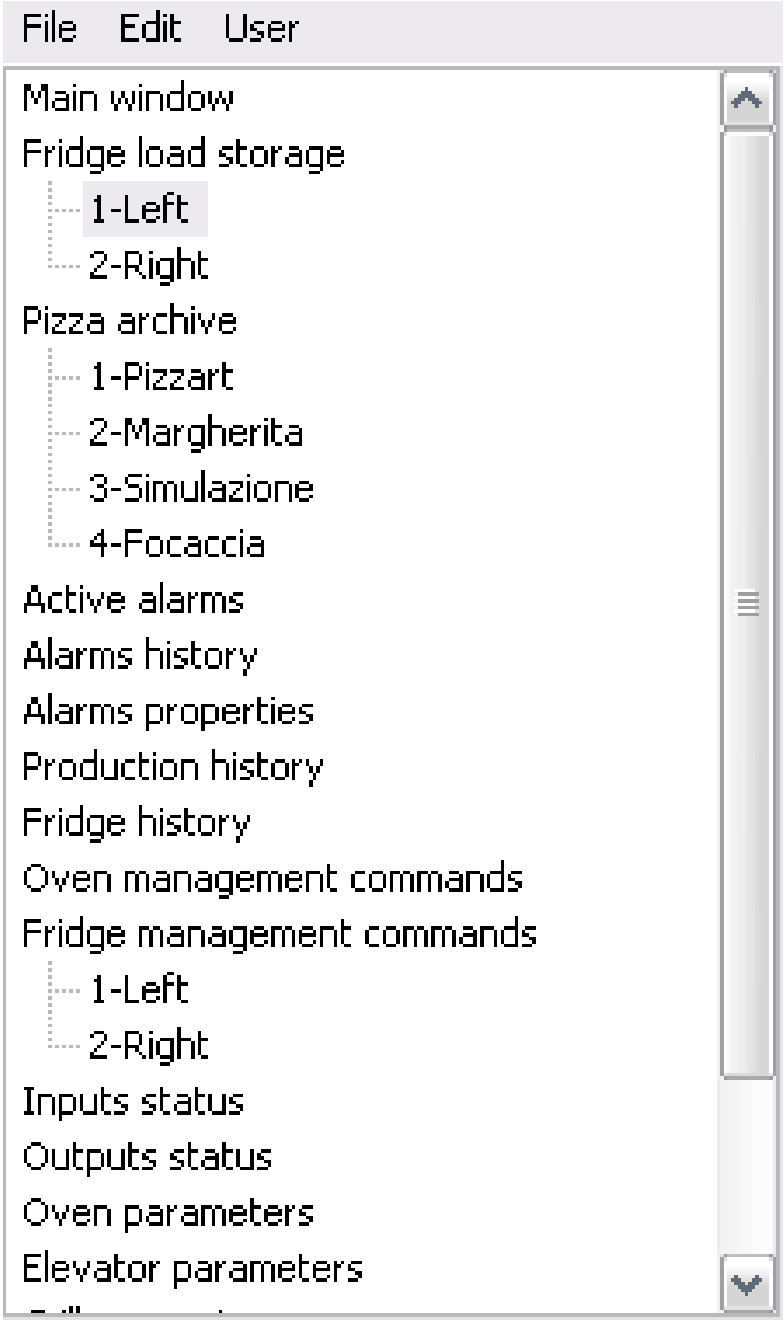


Fig. 53

4.3.1 Main window

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

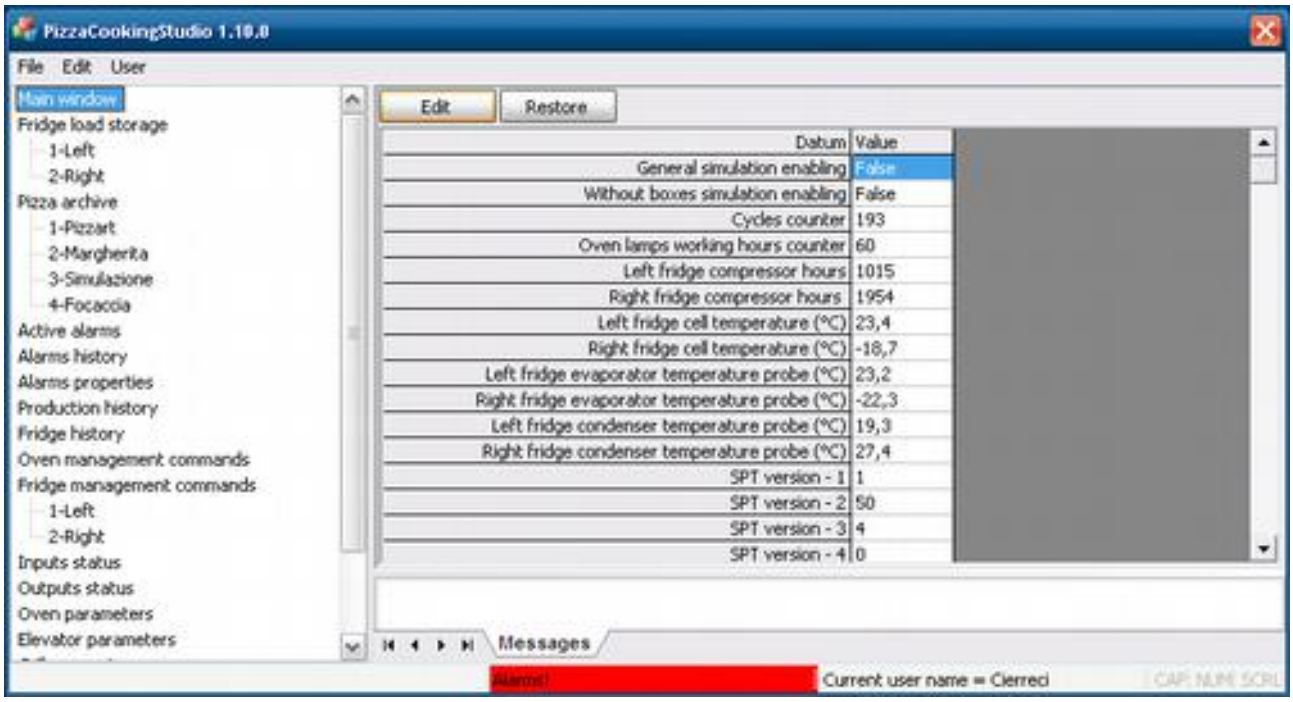


Fig. 54

- General simulation enabling: allows the constructor to test the machine without using the payment system.

- Without boxes simulation enabling: allows the constructor to test the machine without using neither the payment system nor boxes and pizzas.

- Cycles counter: number of machine cycles or number of pizza being cooked since the start time. That value can be reset anytime.

- Oven lamps working hours counter: number of oven working hours.

4.3.2 Fridge load storage

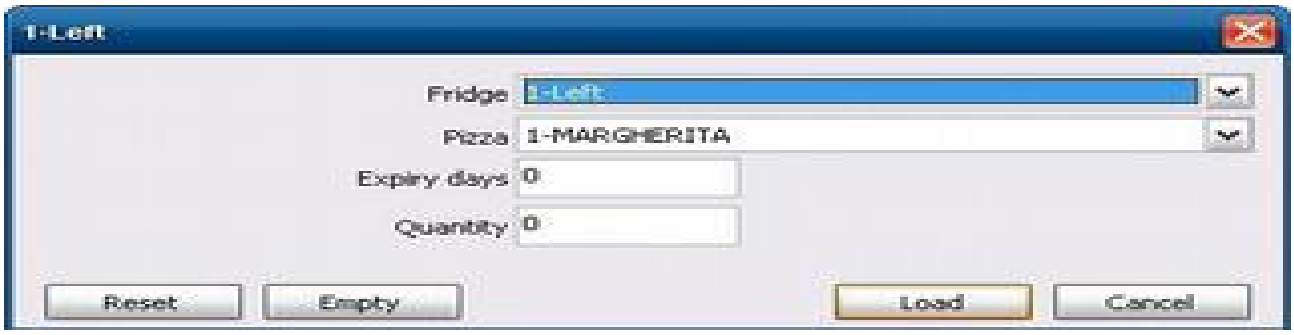


Fig. 55

To fill in the **Fridge load storage (left and right)** with number, expiry date and Pizza code, please see the **Appendix.**

4.3.3 User enabling

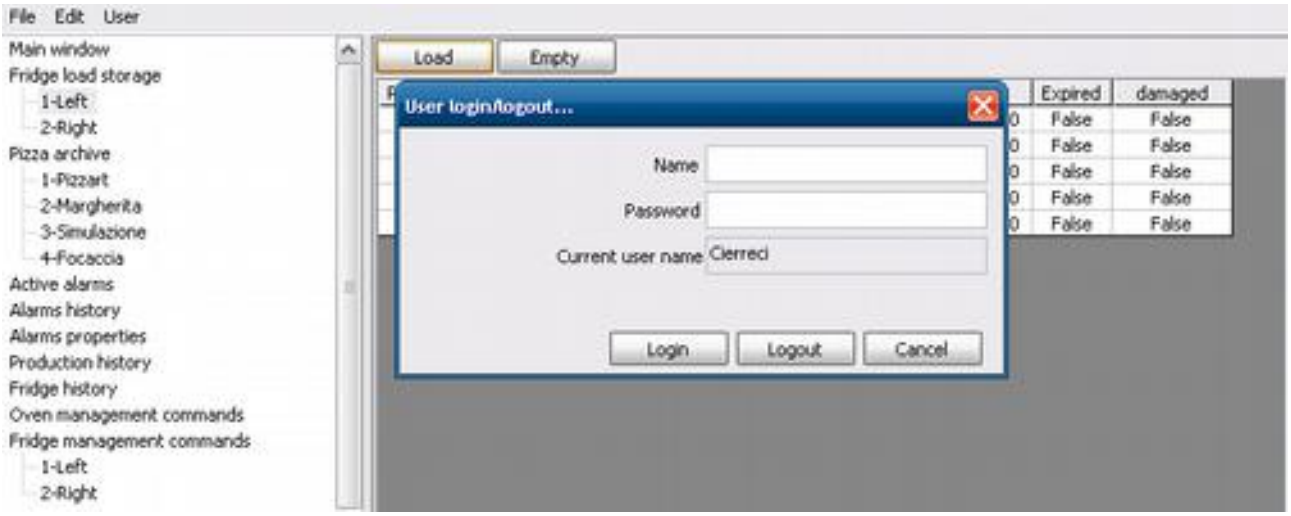


Fig. 46

Any manual intervention, any operating parameters setting or any control of operations, requires the operator to Login as a **super-user**; through the dialog, box do select **User** option, then access with Name: **Cierreci** and Password: **tq21su**.

4.3.4 Pizza archive

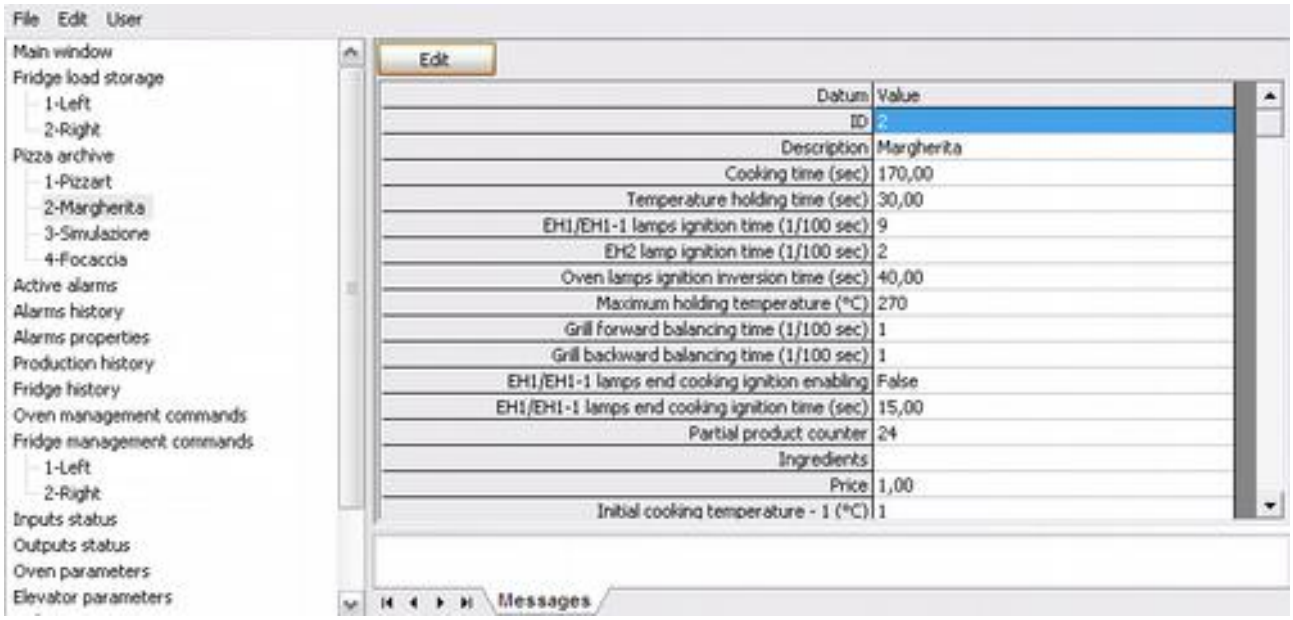


Fig. 57

In "Pizza archive" pages, pizza's cooking parameters are being set for each single type of meal.

Point the cursor on the value to be changed, e.g. 170 sec. for "cooking time", click on "**Edit**" and enter the desired value in the dialog box (Fig. 58).

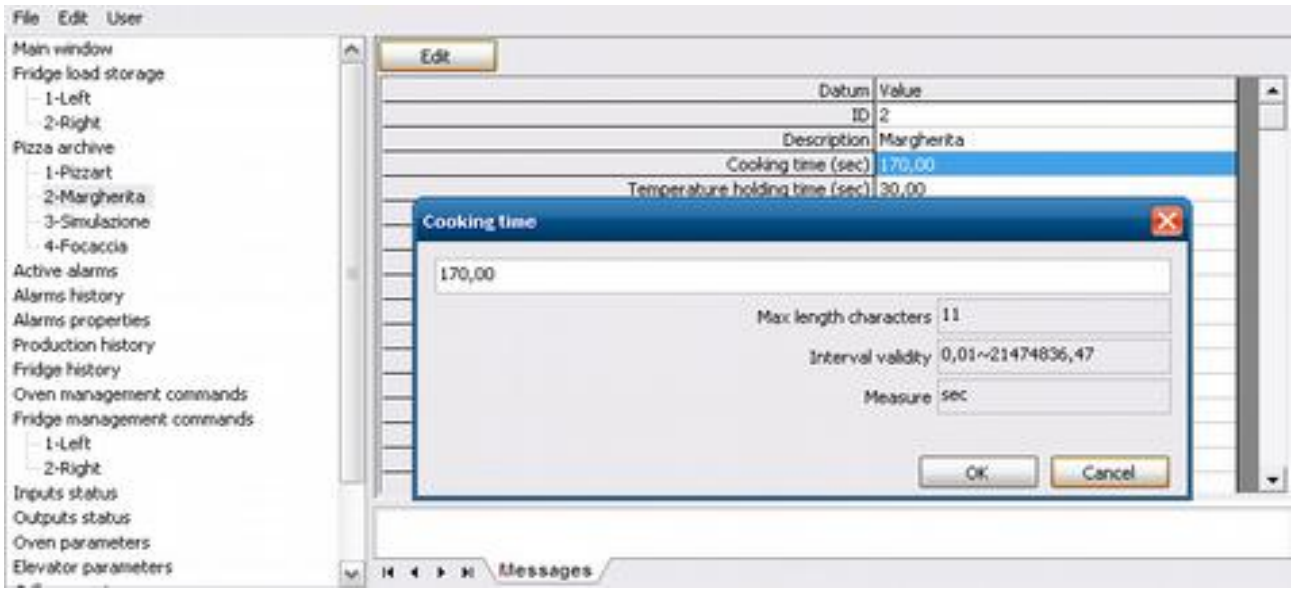


Fig. 58

Archive Commands description (Fig. 57):

Description – name of meal such as Margherita, Salamino, Vegetable, etc.

Cooking time - which is the effective cooking time while reaching the highest set temperature. this parameter can be modified while setting the recipe preferences.

Temperature holding time - to complete then cooking as wished. this parameter can be modified while setting the recipe preferences.

Time of Ignition lamps EH1/EH2 - divides the machine power between the lamps upper and lower in order to cook more on the top or more down so to gain a greater cooking uniformity taking into consideration the thickness of its dough and its filling.
This time is in hundredths of seconds out of 50Hz .
this parameter can be modified while setting the recipe preferences.
Cierreci, strongly suggest to keep this as 9/2 as shown.
EH1:1950watt. EH1-1:850watt. - EH2:2650watt.

Oven lamps ignition inversion time - namely the starting cooking time with ignition priority assigned to the lower lamps so the product may have a well crunchy bottom after the set time the process reverses and the priority is assigned to the upper lamps for the remaining time (please see Cooking time).

Maximum temperature holding - that is the maximum temperature desired as cruise temperature.

Lamps end cooking ignition time - which is an additional working time of the upper lamp while the system is preparing to expel the prepared pizza.
This addition keeps the product warm during the expelling. It is not necessary to change this value already set.
Price - pizza selling price to be modified as required.

Ingredients – so that all the ingredients can be displayed. For each pizza, these must be separated by a comma and a space.

Grill forward balancing time - further progress phase that allows the entire pizza to be placed on the grill.

Grill backward balancing time - pizza balancing phase inside the upper oven.

Initial cooking temperature - is the minimum temperature the oven must reach before the machine starts the full cooking countdown.

Cooking time regulation (1-5): seconds to detract from cooking time considering the Temperature value at the beginning of cooking.

Holding time regulation (1-5): seconds to detract from holding time considering the temperature value at the beginning of cooking.

N.B. these last three functions would be repeated 5 times by the system. Due to the initial cooking temperature value, different times of cooking and holding would be detracted, automatically by the system.

Clicking on "**Edit**" from the toolbar over the tree menu it could be added a new pizza type with all its details. (Fig. 59)

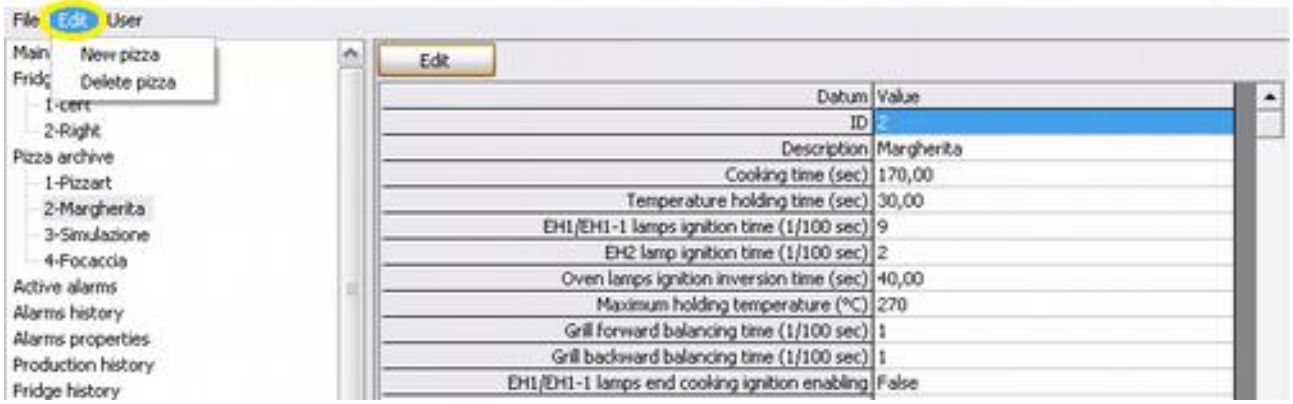


Fig. 59

The interface PizzaCookingStudio Archive can keep recorded 4 kind of different pizza receipts concurrently.

4.3.5 Active alarms

In case the machine PC detects any malfunction a red string "Alarms!" will be shown on the page bottom (Fig. 60 e Fig. 61). In addition, if clicking on **Active alarms**, a list of current alarms/errors will be displayed on a proper window. This function allows to have a snapshot of the state machine situation.

Fig. 60

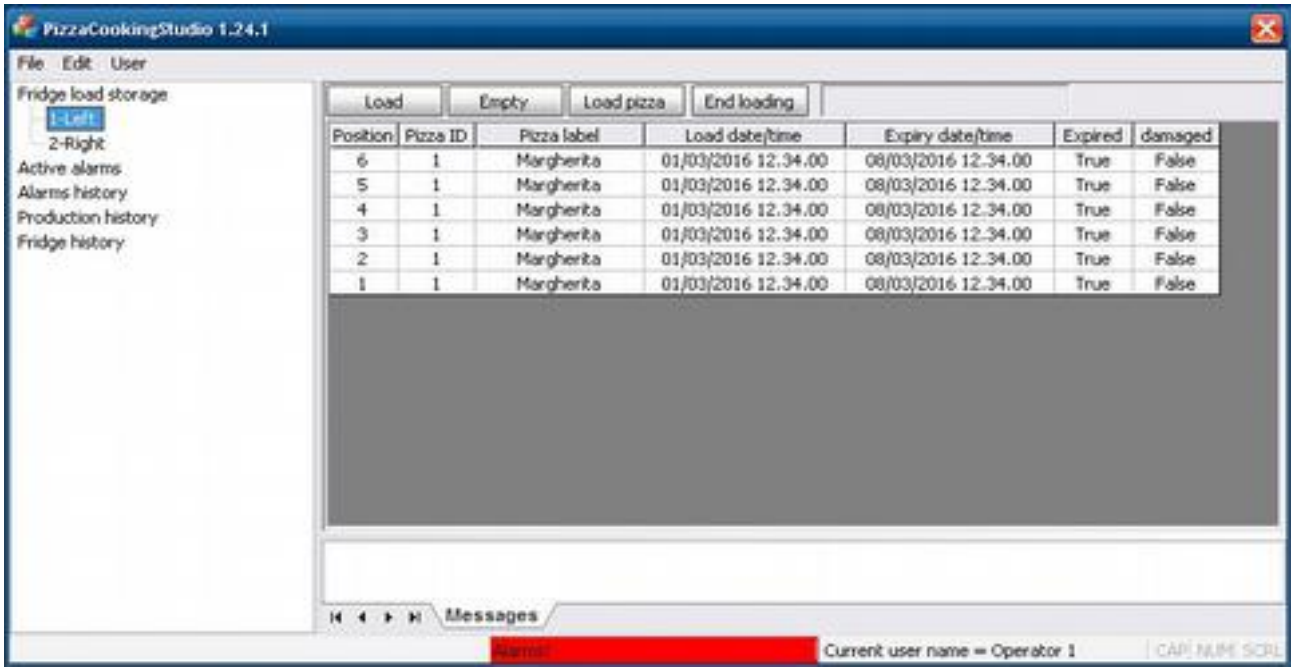


Fig. 61

The string alarms alerts the operator that some maintenance must be done.
Any alarm is matched by a numeric code and a verbose description.
Please check the user manual procedures to fix the problem occurred.
See Chapter 9, Alarms and solutions list.

After fixing the matter that has caused the alarm, press **Reset,** from the Active alarm page, before performing any action, Fig. 62.

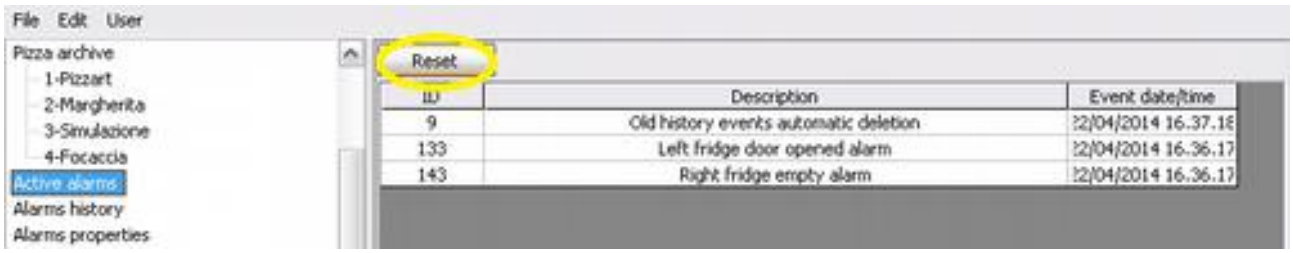


Fig. 62

4.3.5.1. Active alarms description

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

ID = alarm number
Description = alarm description
Event date/time = date and time when alarms occured

Active alarms window shows the real time errors which happened while processing. Once identified the problem an alarms Reset need to be done by pressing the key **Reset**. Alarm ID 135 "Oven door opened" will be the only one still active will be active until closing the oven door lower lock.

4.3.6 Alarms history

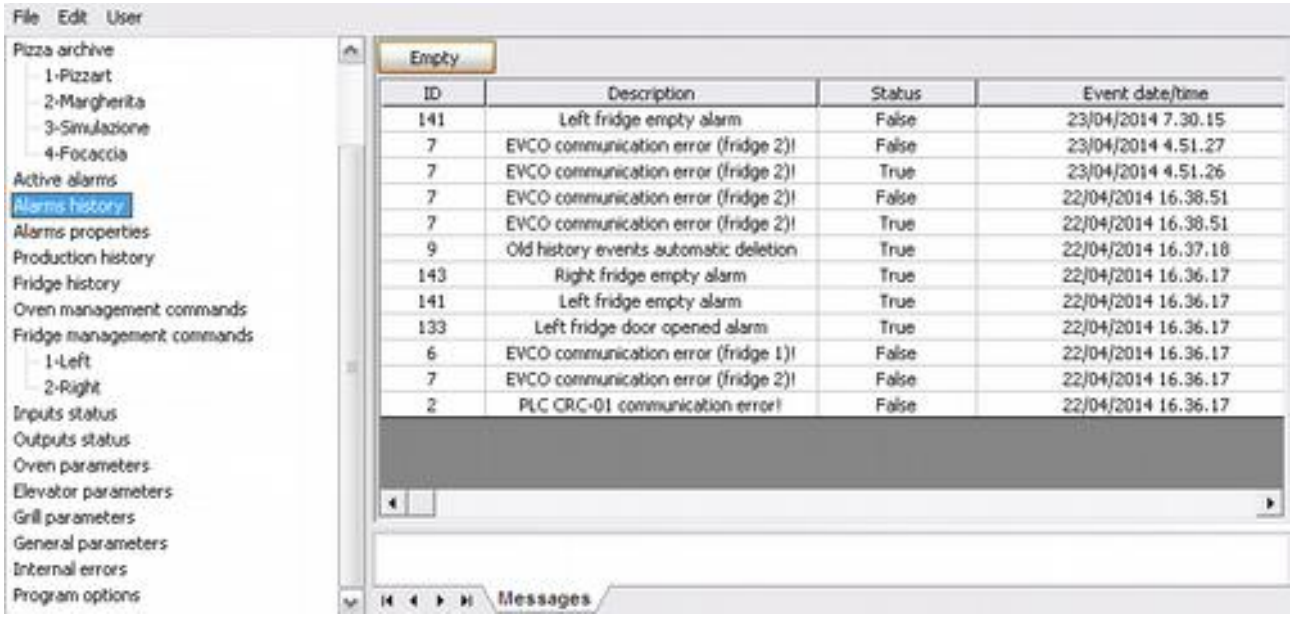


Fig. 63

The **Alarms history** window keeps recorded all the abnormal situations occurred during the time. If the number of them exceeds the storage capacity then they will be overwritten by the system, Fig. 63.

ID and Description tell of the nature of the problem arose.

Status = "true" is for alarm in progress; "false" is for alarm solved.

4.3.7. Production history

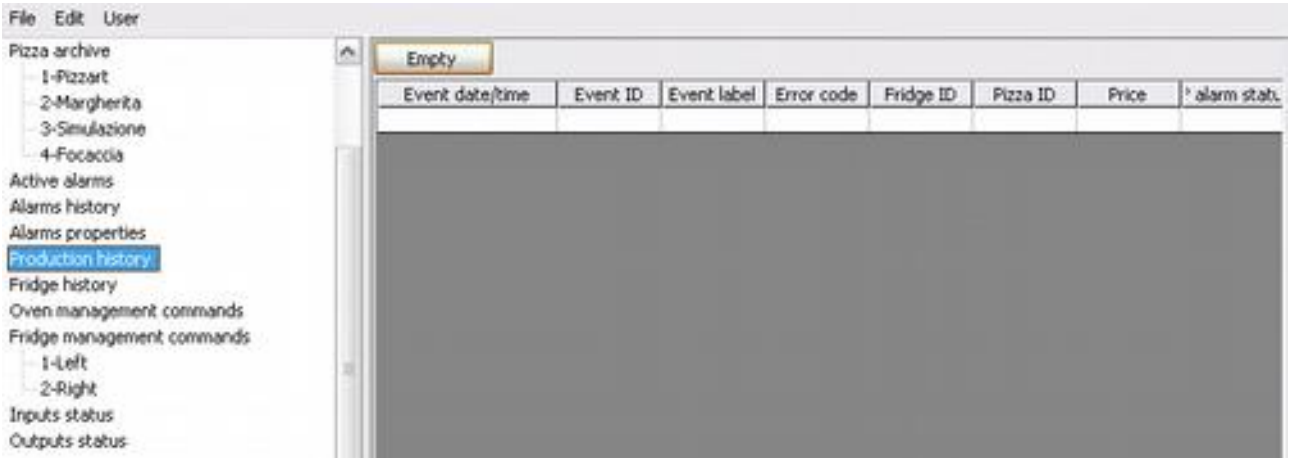


Fig. 64

Event date/time = shows the production state, date and time.
Event label = event description.
Fridge ID = shows from which storage the product has been taken (left,1 or right,2).
Pizza ID = based on product's archive number.
Price = product's sale price.

The **Production history** window displays all the pizza sales data. If the number of sales exceeds the storage capacity they will be overwrite by the system, Fig. 64.

4.3.8 Fridge history

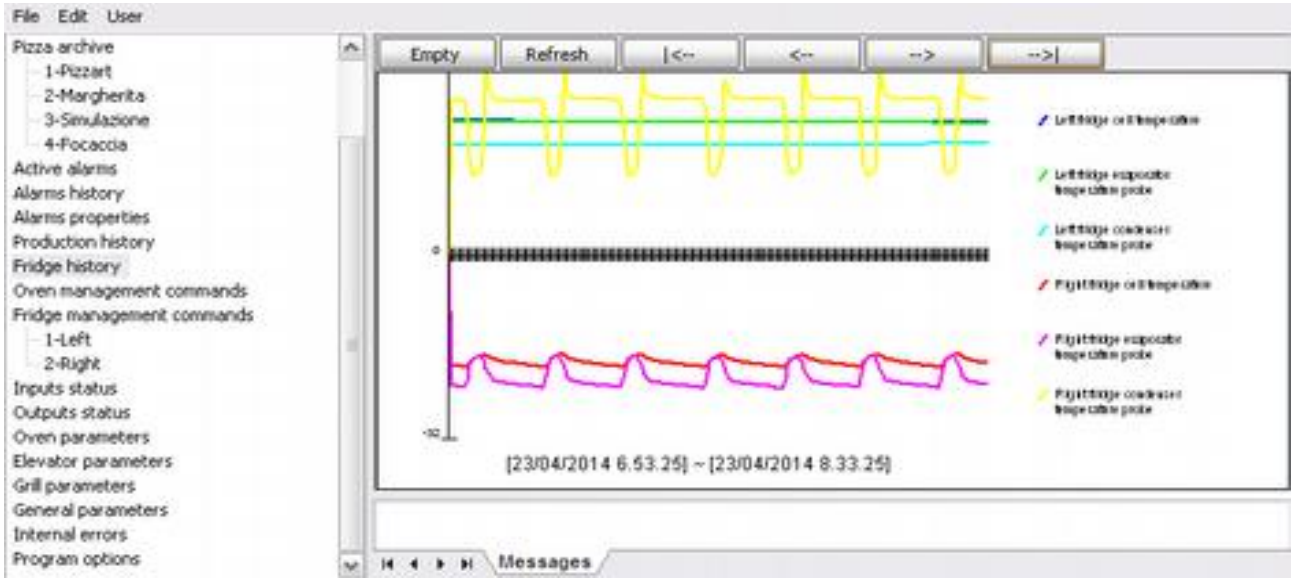


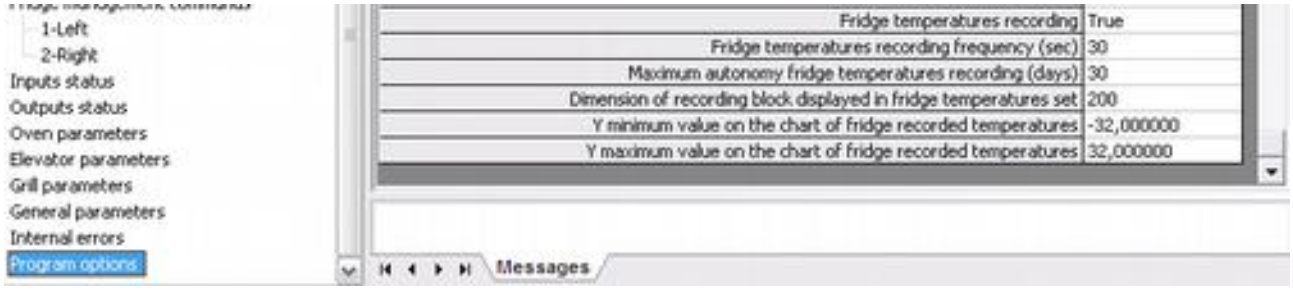
Fig. 65

The fridge history displays the time chart of recorded temperature values from the following devices:

- Left fridge cell temperature
- Left fridge evaporator temperature probe
- Left fridge condenser temperature probe
- Right fridge cell temperature
- Right fridge evaporator temperature probe
- Right fridge evaporator temperature probe

At the chart bottom, the considered range of time is showed. (Fig. 65).

Settable options for fridge history are listed at the bottom of menu **Program options** (Fig. 66).



PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 66

4.3.9 Oven management commands

To operate manually on the handling of the furnace area mechanical parts, it is necessary to enable each single command (Fig. 67).

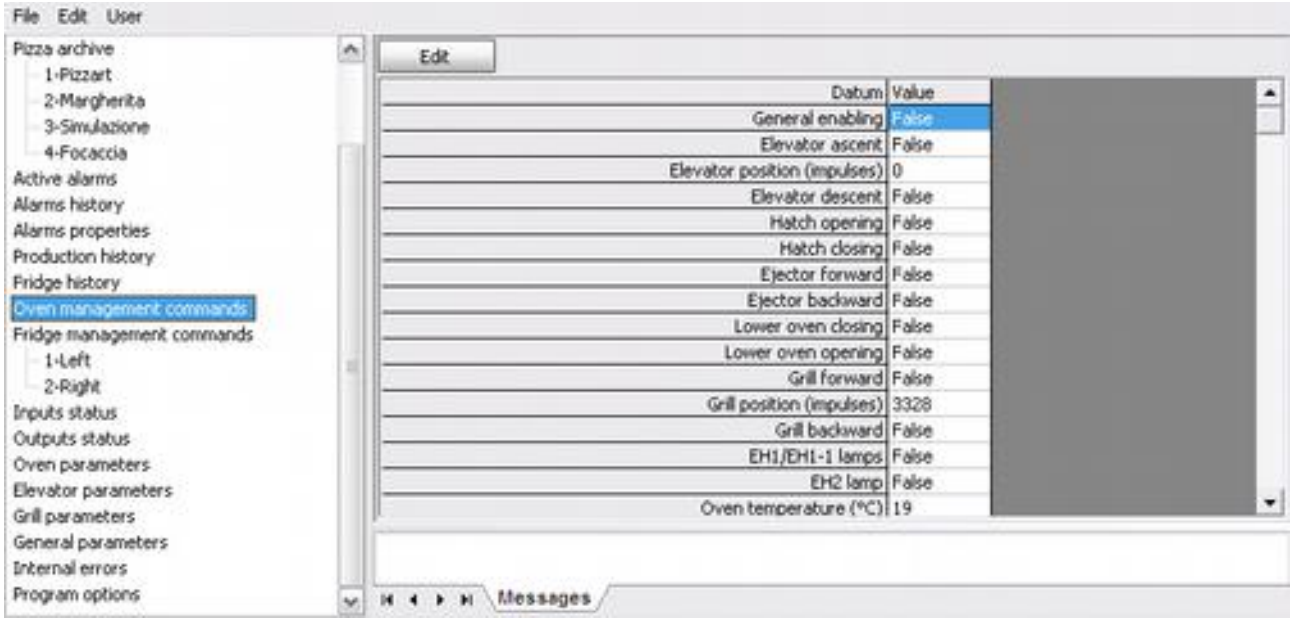


Fig. 67

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Before operate manually the **General enabling** must be done. By clicking on "**Edit**", change the "**General enabling"** value from **False** to **True**. (Fig. 68). This operation must be repeated every single time it accesses the commands lists.

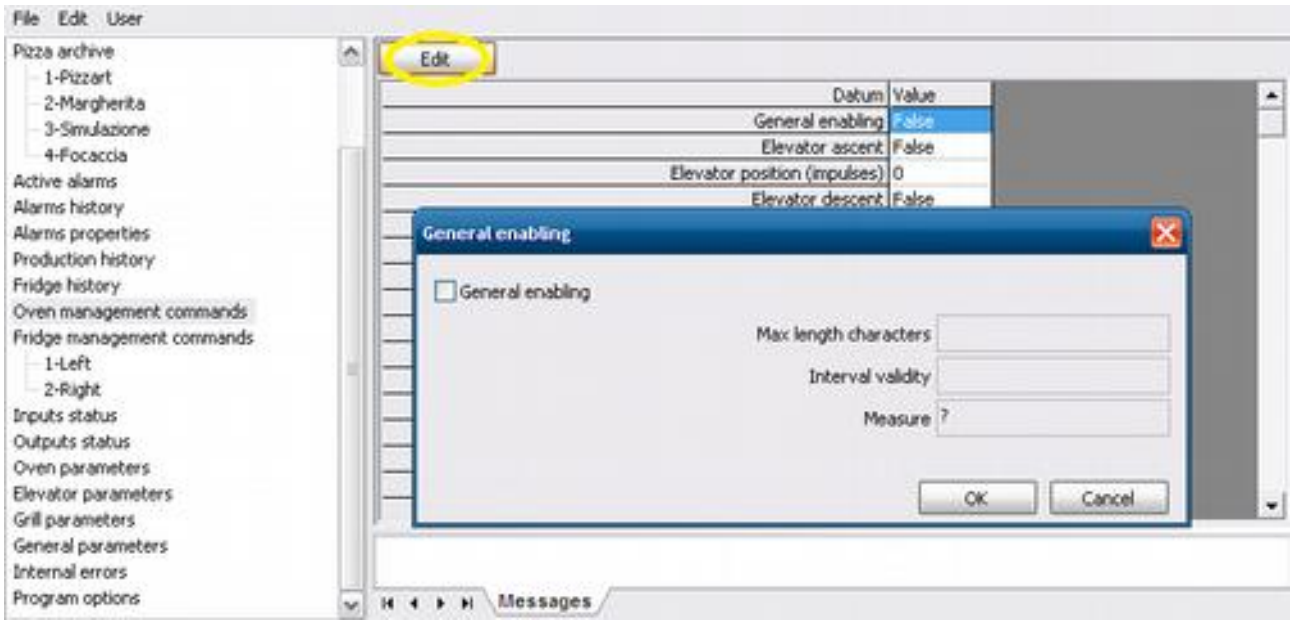


Fig. 68

Required conditions for acceptance of manual commands

- The compensers can be always moved manually.

- The pushers can be moved forward only when the fridge gate is opened and the elevator is completely down. They can always be moved in the opposite direction.

- The elevator may be moved only with the pushers positioned completely back, when both fridge gates are closed, the mobile oven is totally opened and the ejector fully back.

- The pizza delivery hatch can be opened only if the ejector is completely back.

- The ejector moves forward only with elevator in "eject" position, when the mobile oven and the pizza delivery hatch are opened, the grill in back position.
The ejector moves in the opposite direction when the elevator is in "eject" position and the mobile oven is opened.

- The mobile oven moves only when the elevator is completely down (sensor on 0 position), the grill is in forward position and the ejector is completely back.

- The grill can be always moved.

- The EH1/EH1-1 and EH2 lamps can always be switched on.

Manual commands description (Fig. 67):

- Elevator ascent = moves up the elevator until it reaches the first free position. Repeat the operation to reach the following position.

- Elevator position = gives the elevator position value.

- Elevator descent = moves down the elevator until it reaches the first free position. repeat the operation to reach the following position.

- Hatch opening = opens the hatch to get the pizza out.

- Hatch closing = closes the hatch to avoid any kind of contact inside the machine.

- Ejector forward = moves the pizza box out.

- Ejector backward = orders the ejector repositioning.

- Lower oven closing = moves the lower oven in cooking position.

- Lower oven opening= moves the lower oven in rest position.

- Grill forward = moves the grill forward to load the pizza.

- Grill position = gives the value of the grill position.

- Grill backward = moves the grill backward to place pizza on the box and return at rest position.

- EH1/EH1-1 Lamps = n.2 upper oven lamps activation.

- EH2 Lamp = lower oven lamp activation.

- Oven fan = oven area vacuum system activation.

- EH1/EH1-1 upper oven lamps ignition, max power = n.2 upper oven lamps activation at maximum power.

- EH2 lower oven lamp ignition, max power = lower oven lamp activation at maximum power.

- Oven warming - EH1/EH1-1 and EH2 contemporary ignition = oven lamps contemporary ignition.

- Manual enabling = This very critical command allows the operator to manually manage the movements of the oven mechanical parts forcing the limits imposed by the safety systems. This option can be useful to test the operation of the devices and to restore the initial conditions of positioning.
By clicking on "**Edit**" change the "**Manual enabling"** value from **False** to **True**. (Fig. 69).

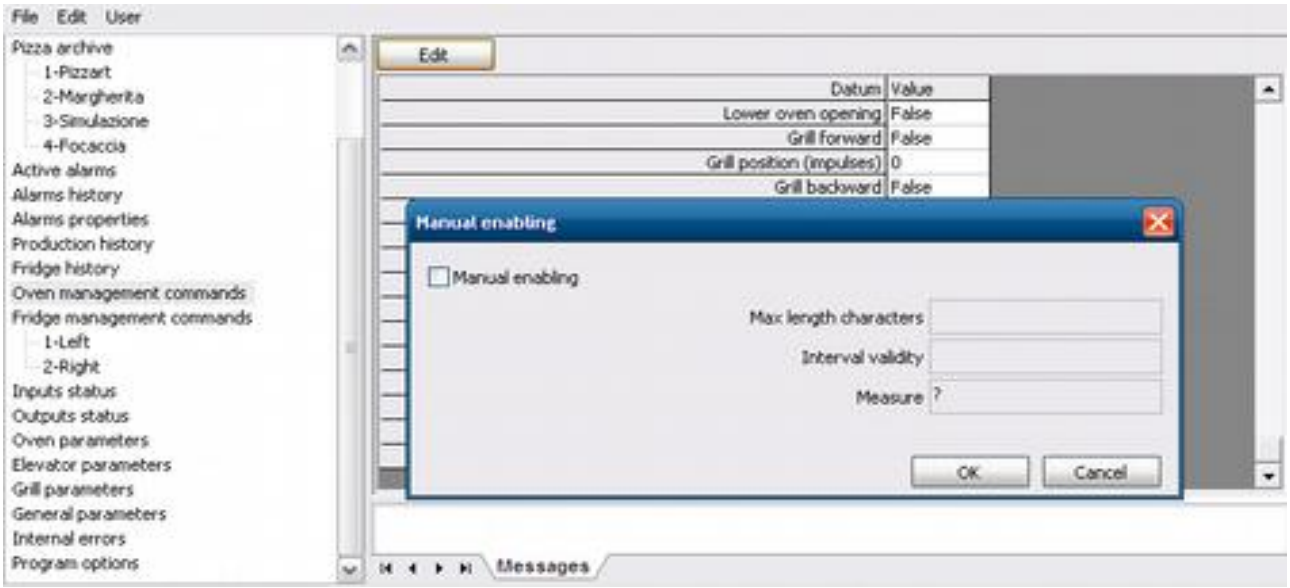


Fig. 69

4.3.10 Left/Right Fridge management commands

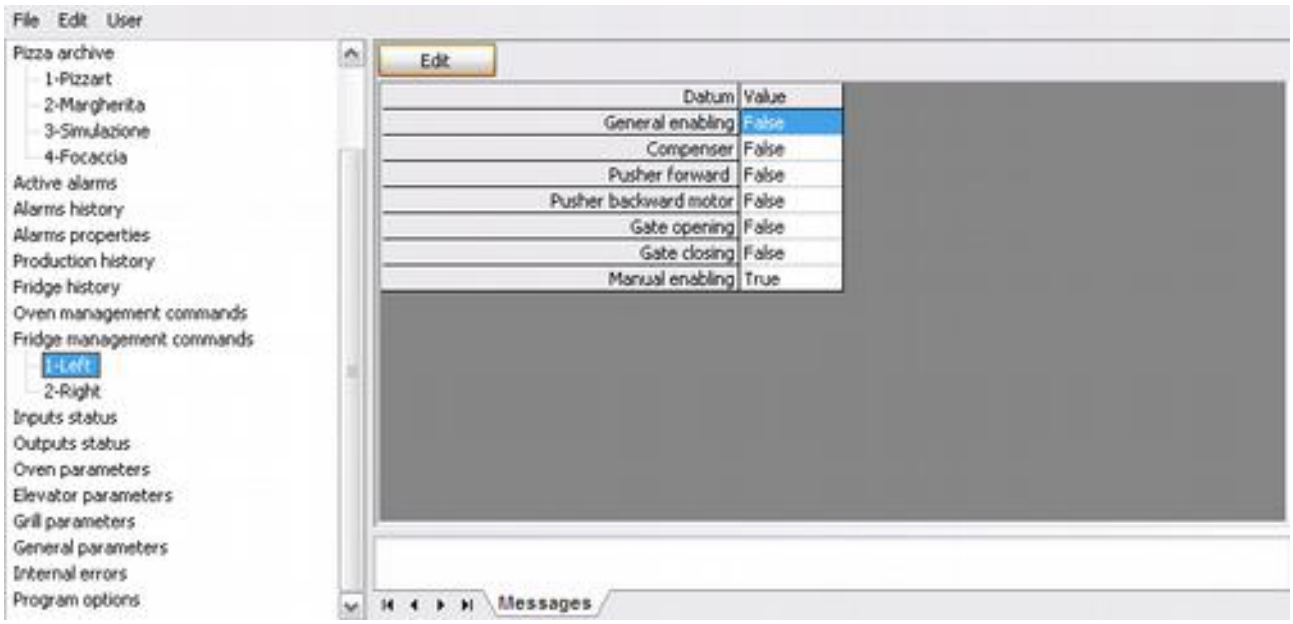


Fig. 70

Clicking on "**Edit**" change the "**General enabling"** value from **False** to **True**. Then pick "**General enabling"** in the dialog box and click "**ok**" (Fig. 70 - 71).
Doing so, the operator is allowed to manually move and test all the fridge storage mechanical parts.

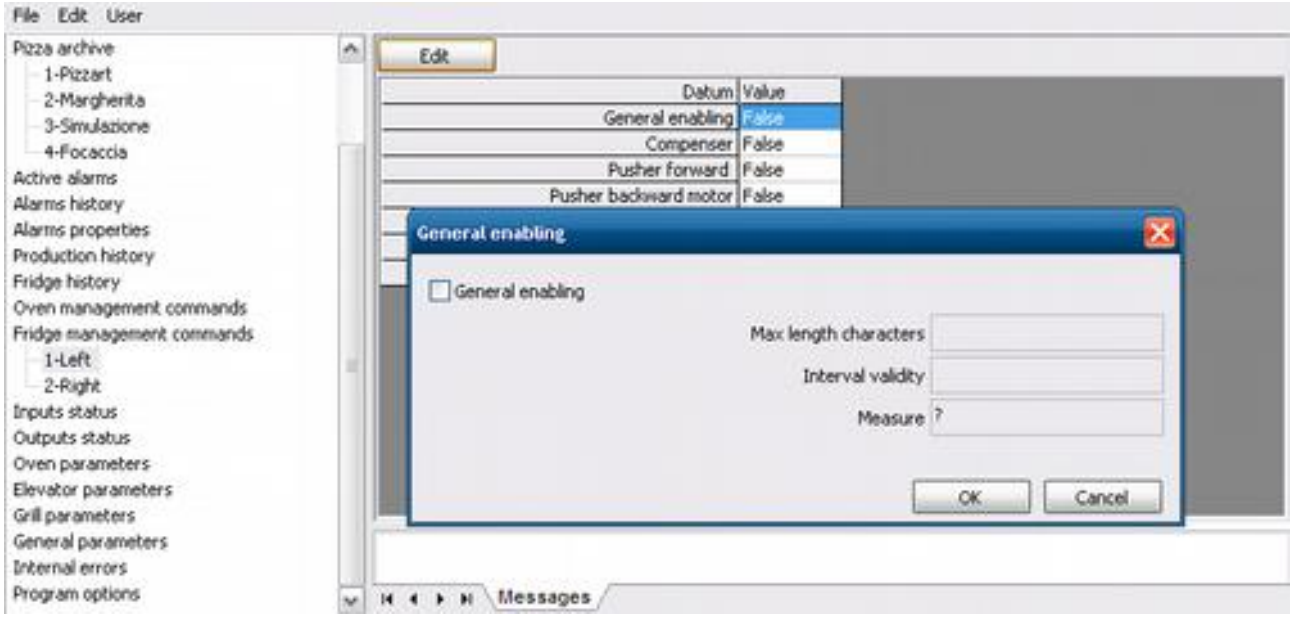


Fig. 71

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Commands description (Fig. 60):

- Compenser = moves the storage trolley.

- Pusher forward = moves the pizza box from the fridge storage to the elevator plate.

- Pusher backward = replaces the pusher in its rest position.

- Gate opening = opens the storage while gate for the passage of the box from the fridge to the oven area.

- Gate closing = closes the storage white gate.

- Manual enabling = This very critical command allows the operator to manually manage the movements of the storage mechanical parts forcing the limits imposed by the safety systems. This option can be useful to test the operation of the devices and to restore the initial conditions of positioning.
By clicking on "**Edit**" change the "**Manual enabling"** value from **False** to **True**. (Fig. 72).

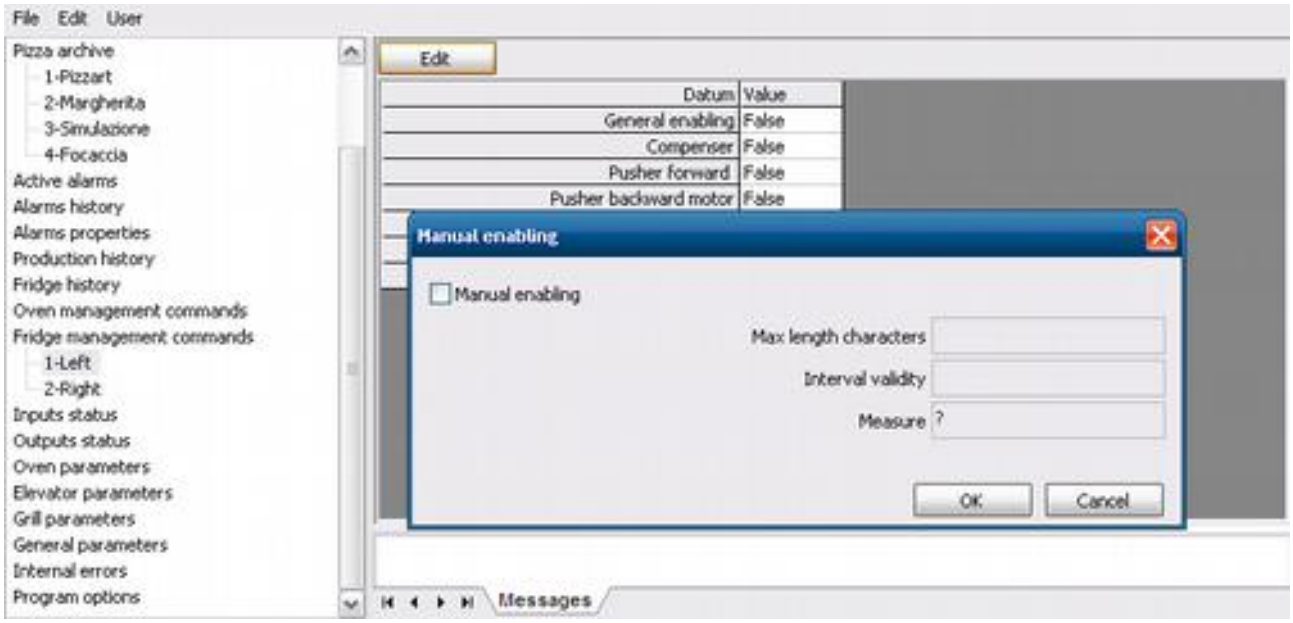


Fig. 72

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

4.4 Automatic cycle positioning

Every time the fridges doors or the oven door will be opened then an automatic reset must be done as follow:
clicking on the Active alarm window, take note of any possible alarm code, press on **Reset** key then close the oven door and turn the lower key. The machine will be ready to use in a few seconds (Fig. 73 - 74).

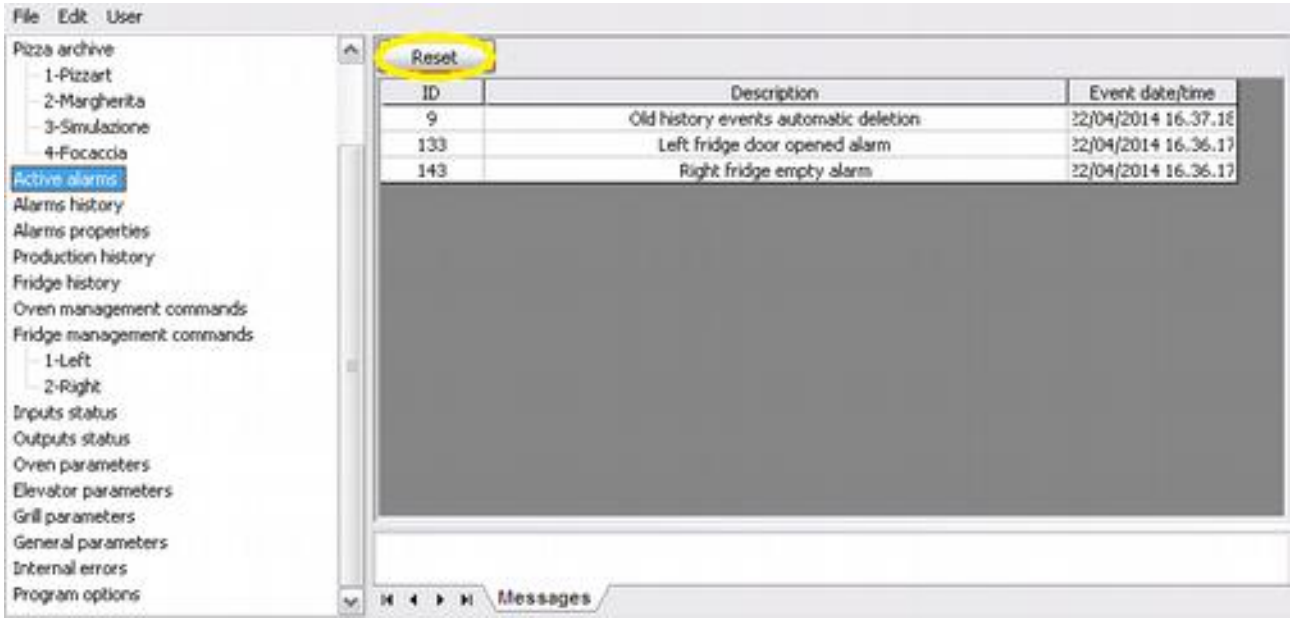


Fig. 73

4.5 Customer windows

Fig. 74

Fig. 75

In the homepage the customer is asked to choose the pizza flavor.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

The display area shows a main window with a welcome message and an area with 4 touch screen keys on the bottom (Fig. 75 - 76). **Through the 4 keys, starting from the left, the customer may:**

- choose the pizza stored in the left fridge (pizza flavor 1);
- select the desired language, pushing the flag;

- cancel the purchase order, pressing the symbol 

or the symbol 

according to the given software release (Fig. 76);

- choose the pizza stored in the right fridge (pizza flavor 2).

Fig. 76

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 77

The next window invites the customer to pay for the selected pizza. Based on the installed payment system, that would be by coins, bank notes or credit cards.

Fig. 78

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 79

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 80

The windows **"Please wait, we are cooking your Pizza!", "Your Pizza is almost ready!"** show the machine status and the cooking left time.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 81

The window **"Pizza ready to eat! Enjoy!"** invites the customer to collect the pizza from the exit area.

Fig. 82

In case of malfunction the machine warns the client displaying the string "Sorry! The machine is out of order". In addition The customer is asked to withdraw the inserted money if already put it inside; If used a credit card – The transaction will be interrupted.

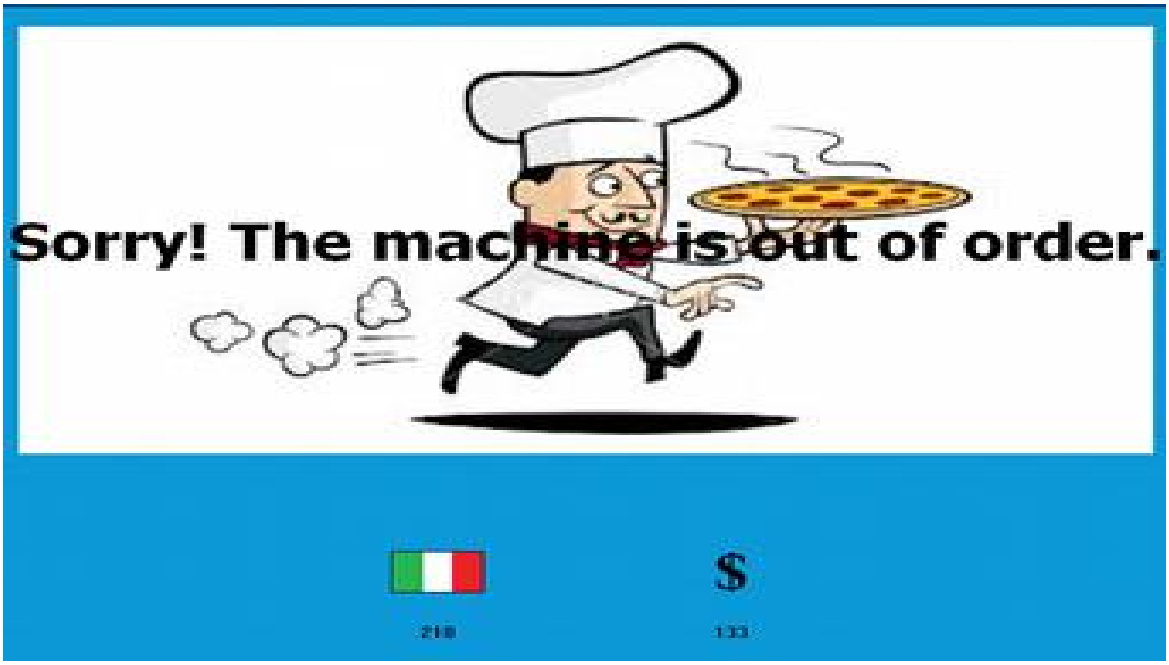


Fig. 83

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 84

When the machine is in standby and ready to operate, from the top bar some remarkable values such as refrigerators temperature, oven temperature, number of pizzas kept in the storages and eventual active alarms are shown, Fig 84.

Chapter 5. Remaining risks

It is not possible to completely eliminate all the risks connected to the machine use. however, after a careful analysis, the risks have all been reduced to a minimum. In this section the possible residual risks are presented to the operator to improve his own safety and to avoid dangerous situations.

WARNING! Read carefully this paragraph so to be aware of remaining risks when using this machine.

Potential remaining risks are the following:

Risk connected to noise is negligible as the level of emitted noise is inferior to 70dB and the acoustic output is in line with the European regulation UNI EN ISO 3744.

Risk of being crushed (generic) while taking the cooked pizza. The exit area is well protected by a rigid plastic/stainless support that could be deliberately breached by the operator hand thereby reaching the dispenser's sash closure (Fig. 85).

Risks of an electric nature (shock) in the case of deliberate and inappropriate access to electrical components.

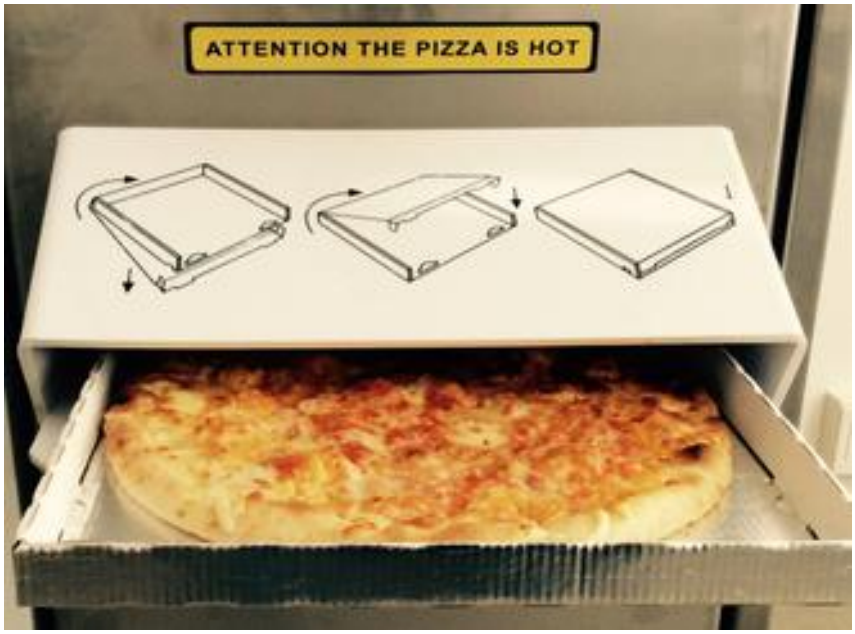


Fig. 85

Risks connected to the general maintenance.

Risks of burns owing to contact with the oven glasses while still hot.
Anyhow all the procedures described in chapter 5 should always be followed.

Chapter 6. Maintenance

6.1 Safety measures

WARNING: *Under no circumstance carry out any cleaning, maintenance, or lubrication with the machine in motion and with an electrical current. Such operations must be carried out when the machine has stopped and the console unplugged.*

It is of fundamental importance that the maintenance is carried out by qualified, authorized personnel, who are well-versed on the correct procedures relating to the machine. In particular, those operations that are of an electric nature should exclusively be carried out by electricians approved by Cierreci.

In addition, those personnel assigned to the periodic replenishment of pizza boxes, maintenance and handling must be qualified and specialized; and furthermore:

- ***have read this manual;***
- ***knows the general rules concerning machinery safety;***
- ***is provided with protective gear such as gloves;***
- ***knows the food safety regulations of 'Hazard Analysis and Critical Control Point' - HACCP (or equivalent legislation).***

CIERRECI s.r.l. declines all liability for accidents to persons and/or to environment arising from failure to comply with these instructions.

In addition:

- During maintenance it is necessary to place signboards or other sighns near the vending indicating the machine must not be switched on.
- If the intervention is carried out by several people simultaneously, it is necessary to ensure that these can communicate effectively.
- Do not perform more actions at the same time if one of these must be done with the machine switched on.
- It is obligatory to use equipment and utensils appropriate to the intervention.
- Before initiating the maintenance, carefully remove any dirt, avoiding the use of compressed air, use instead soft, dry cloths and, if necessary, a non flammable solvent.
- Once the maintenance has been completed:
  - **Check** that all connections have been restored; protective casings have been put back; screws have been well fastened and doors have been closed.
  - **Check** that no tools or other foreign objects have been left above or into the machine.
  - **Clean** and dry the floor, to avoid slipping near the machine.

6.2 Preventive maintenance

Important: *Good preventive maintenance lengthens the life of the machine and retains a high safety level for the operators.*

On regular basis a visual verification should be carried out of the safety devices; in particular, to verify that the fixed guards are properly installed and that the opening of the doors prevents the machine from operating in the automatic cycle.

On regular basis visually check that the electrical equipment and cable connections are in good condition.

The "COOKING VENDING MACHINE" should to be cleaned daily. Remove any carton parts, crumbs of pizza and any remaining left in the refrigerators; cleaning the dispenser wings and the storage areas.

6.3 Lubrication

The machine does not have a gear case or other elements that need to be greased so there are not special indications about lubrication.

Chapter 7. Pizza Box

For a correct functioning of the machine it is essential to use the pizza box supplied by Cierreci s.r.l. only, which is a high temperature carton proof and certified at the health level, Fig. 86).

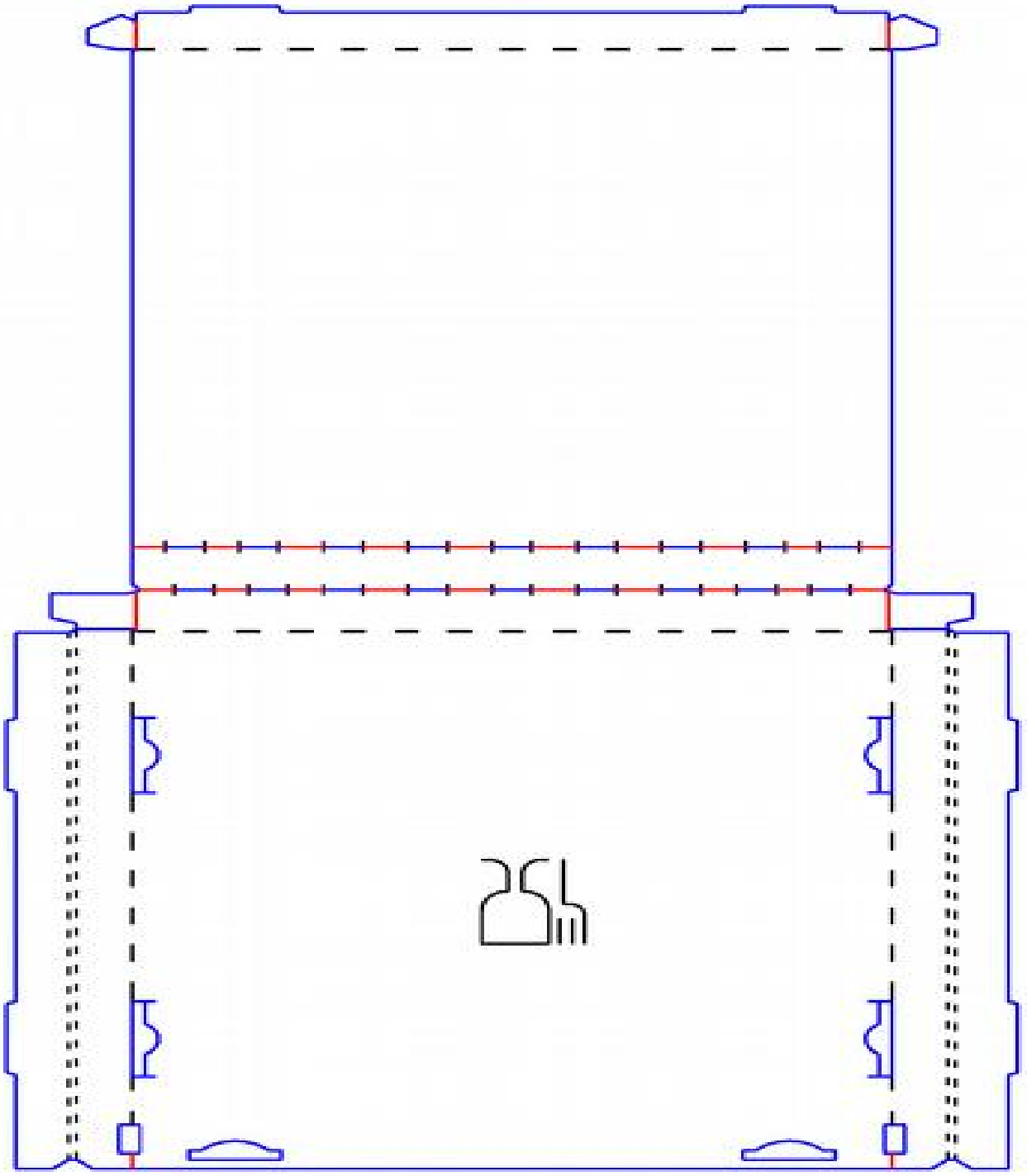


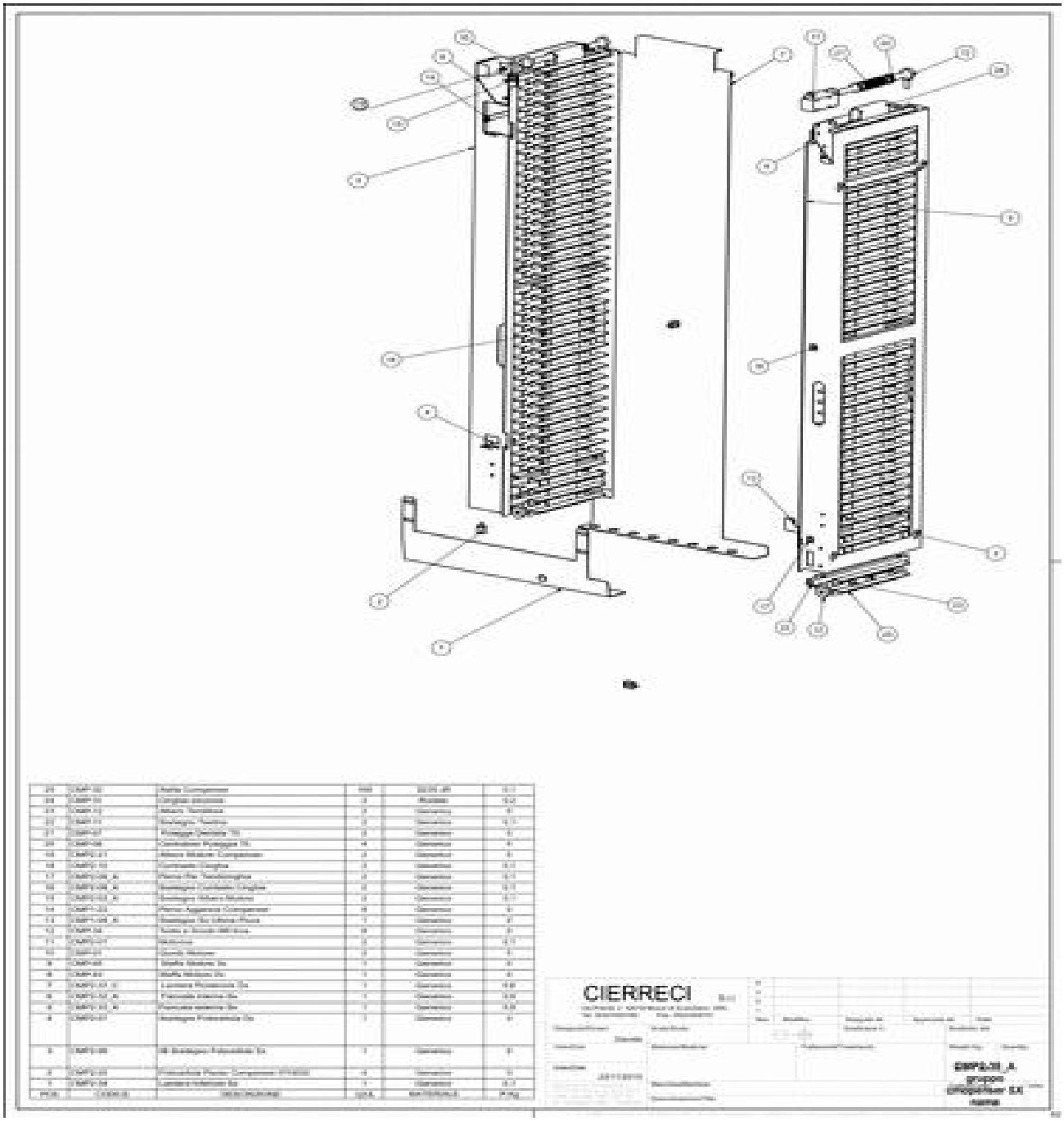
Fig. 86

Chapter 8. Spare parts

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

8.1 Storage (Compenser)

TABLE N° 1



PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

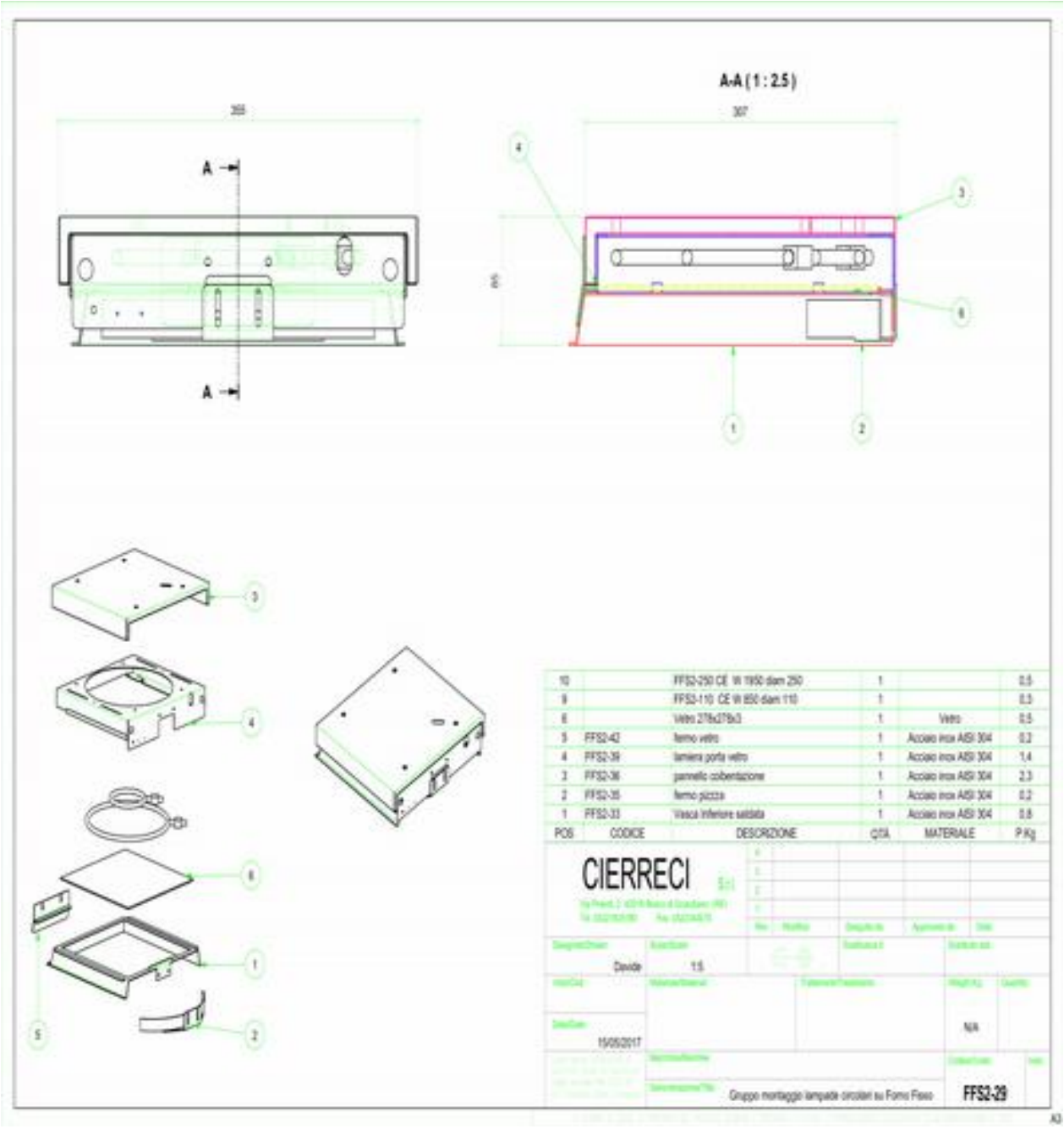
POS.	CODE	DESCRIPTION	Q.TY
01	CMP2-34	LOWER METAL SHEET LEFT SIDE	**1**
02	CMP2-20	PHOTOCELL STEP COMPENSER 07H202	**4**
03	CMP2-06	PHOTOCELL SUPPORT LEFT SIDE	**1**
04	CMP2-07	PHOTOCELL SUPPORT RIGHT SIDE	**1**
05	CMP2-33_A	EXTERNAL FRAME LEFT SIDE	**1**
06	CMP2-32_A	INTERNAL FRAME LEFT SIDE	**1**
07	CMP2-37	REAR LAMIER RIGHT SIDE	**1**
08	CMP-43	RIGHT MOTOR BRACKET	**1**
09	CMP-45	LEFT MOTOR BRACKET	**1**
10	CMP-01	JOIN MOTOR	**2**
11	CMP2-01	MOTOR	**2**
12	CMP-34	SNOW M8 INOX HEAD	**8**
13	CMP1-08_A	LEFT HOLDER LAST PIZZA ON PLATE	**1**
14	CMP1-22	COMPENSER PIN	**8**
15	CMP2-02_A	ENGINE SHAFT SUPPORT	**2**
16	CMP2-08_A	CONTRAST SUPPORT BELT	**2**
17	CMP2-09_A	PULLER BELT PIN	**2**
18	CMP2-10	BELT CONTRAST	**2**
19	CMP2-21	COMPENSER MOTOR SHAFT	**2**
20	CMP-06	CONTRAST OF PULLEY T5	**4**
21	CMP-07	T5 PENCIL PULLEY	**2**
22	CMP-11	HOLDER HEAD	**2**
23	CMP-12	TREE PULLER	**2**
24	CMP-31	SINGLE BELT	**2**
25	CMP-32	COMPENSER FINS	**168**

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

8.2 Upper oven

TABLE N° 2

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de



PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

POS	DESIGN N.	DESCRIPTION	Q.TY
1	FFS2-33	WELDED BOTTOM BOWL	1
2	FFS2-35	PIZZA STOPPER	1
3	FFS2-36	COOLING PANEL	1
4	FFS2-39	GLASS GUIDE LAMIER	1
5	FFS2 -42	GLASS STOPPER	1
6	FFS1-08	GLASS 278X278X3 mm	1
7*			0
8*			0
9*	FFS2-110	LIGHT CE W 850 DIAMETER 110 mm	1
10*	FFS2-250	LAMP CE W 1950 DIAMETER 250 mm	1

*** It could be used round lamps or straight ones**

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

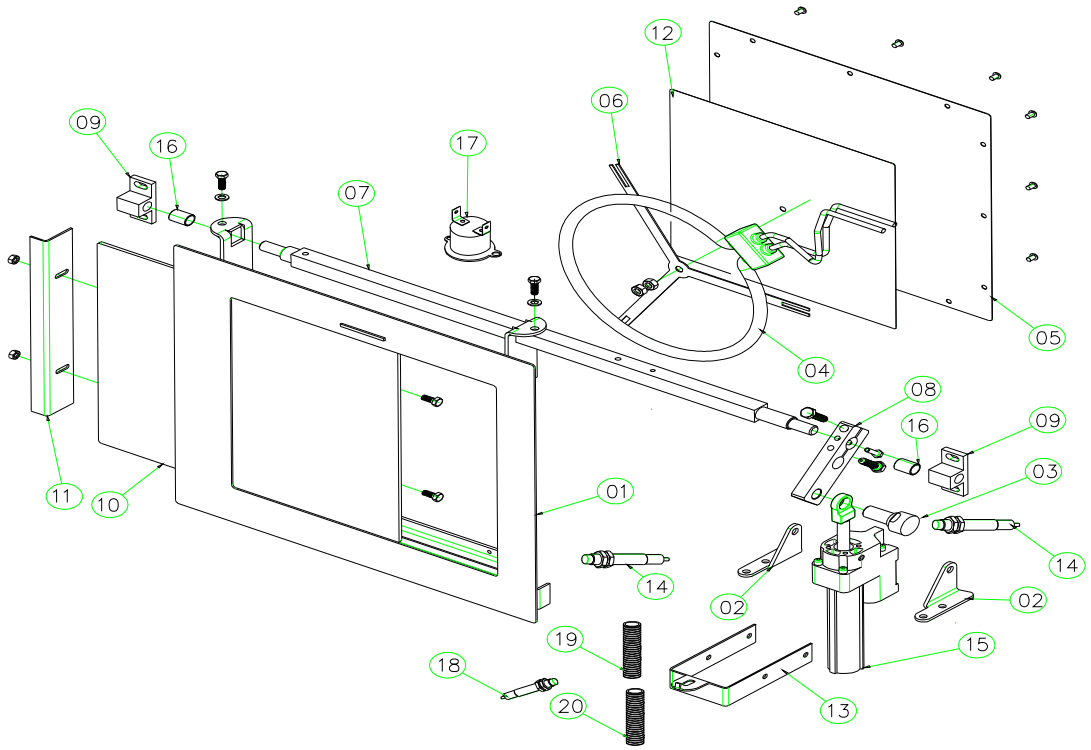
8.3 Ejector

TABLE N° 3

POS	DESIGN N.	DESCRIPTION	Q.TY
01	ESP2-20	EJECTOR MOTOR UNIT	1
02	ESP2-01	EJECTOR	1
03	ELT2-21	MAGNETIC SENSOR	2

8.4 Lower oven

TABLE N° 4



POS	DESIGN N.	DESCRIPTION	Q.TY
01	FRT2-01	ROTATING OVEN SUPPORT FRAME	1
02	FRT2-07-02	MOTOR FULCRUM	2
03	FRT2-03	OVEN FULCRUM SCREW	1
04	FRT2-04	LAMP ∅160	1
05	FRT2-05	LOCKING PLATE	1
06	FRT2-06	LAMP FIXING ∅160	1
07	FRT1-02	FULCRUM PIVOT	1
08	FRT1-06	ROTATION LEVER	1
09	FRT1-07	ROTATION FULCRUM	2
10	FFS1-08	TEMPERED GLASS 10.9449*10.9449*0.1181 INCHES	1
11	FRT-09	GLASS RESTRAINT	1
12	FRT2-08	REFLECTIVE	1
13	FRT2-07-01	MOBILE BRACKET MOTOR	2
14	FRT2-20	SENSOR M12-4 mm	2
15	FRT-20	GEARMOTOR: LAT2A27	1
16	FRT1-22	"DU" BUSHING	2
17	FFS2-22	BIMETALLIC THERMOSTAT FROM 200°C	1
18	ELT2-11	SENSOR M8-4 mm PARTIALLY SHIELDED	1
19	FRT2-21	COMPRESSION SPRING D22910 Q	2

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

20	FRT2-22	COMPRESSION SPRING D22960 Q	2

8.5 Grill

TABLE N° 5

POS	DESIGN N.	DESCRIPTION	Q.TY
01	PLT2-10	GRILL MOTOR SHAFT WITH ENCODER NPN	1
02	PLT2-02	PLATE	1
03	PLT2-01	PLATE SUPPORT	1
04	ELT2-21	MAGNETIC SENSOR	1

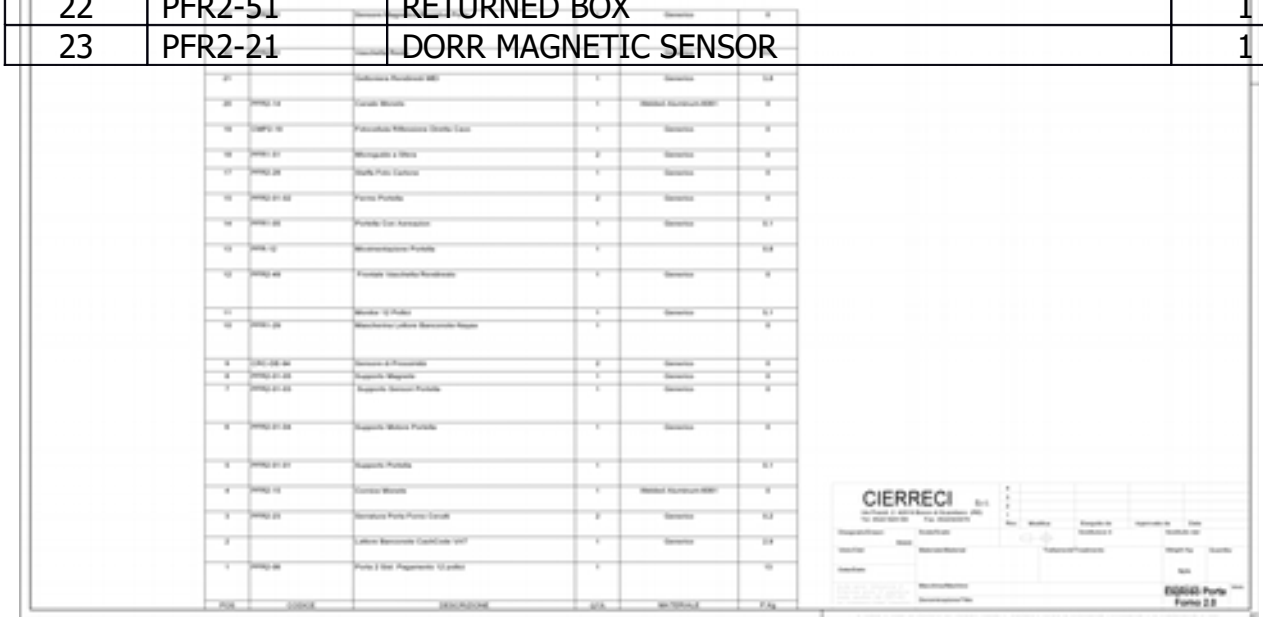
PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

8.6 Oven door

TABLE N°6

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

POS	DESIGN N.	DESCRIPTION	Q.TY
01	PFR2-06	12 INCHES PAYMENT SYSTEM	1
02		CASH CODE BANKNOTE READER VAT	1
03	PFR2-23	OVEN DOOR LOCK	2
04	PFR2-15	COINS INSERT	1
05	PFR2-01-01	HETCH SUPPORT	1
06	PFR2-01-04	HETCH MOTOR SUPPORT	1
07	PFR2-01-03	HETCH SENSOR SUPPORT	1
08	PFR2-01-05	MAGNETIC SUPPORT	1
09	CRC-DE-94	PROXIMITY SENSOR	2
10	PFR1-29	NAYAX NOTES MASK	1
11		MONITOR 12 INCHES	1
12	PFR2-49	FRONT CHANGER	1
13	PFR-12	HETCH MOTOR	1
14	PFR1-05	DOOR WITH COOLER	1
15	PFR2-01-02	HETCH STOPPER	2
16			
17	PFR2-28	PIZZA BOX PHOTOCELLULAR BRACKET	1
18	PFR1-51	MICROGUIDE	2
19	CMP2-19	DIRECT CABLE REFLECTIVE PHOTOCELL	1
20	PFR2-14	COINS TUBES	1
21		CHANGER MEI	1
22	PFR2-51	RETURNED BOX	1
23	PFR2-21	DORR MAGNETIC SENSOR	1



PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

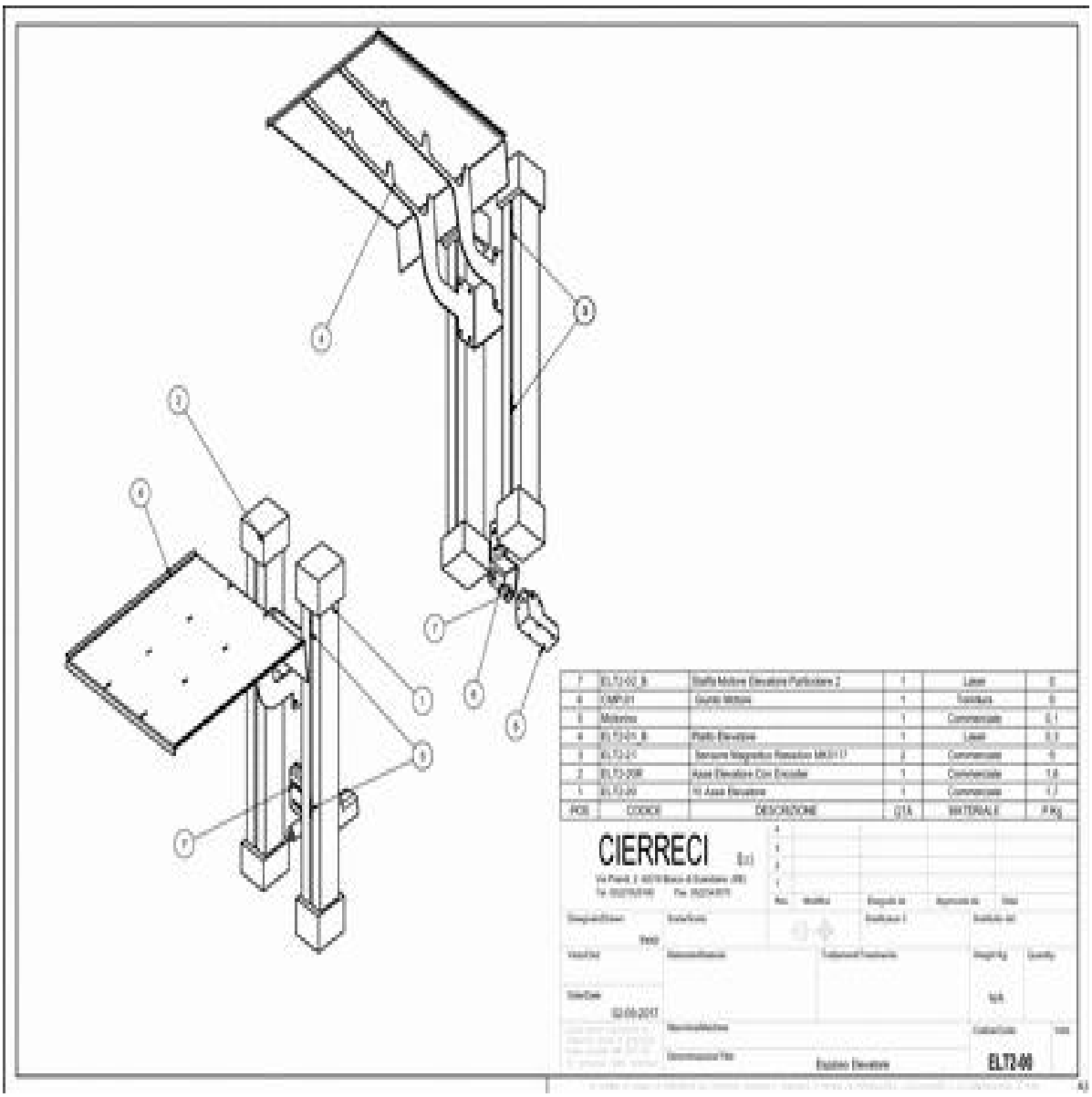
8.7 Pushers

TABLE N° 7

POS.	DESIGN N.	DESCRIPTION	Q.TY
01	SPT2-10	RIGHT LOADING CARRIAGE SHAFT	1
02	SPT2-10	LEFT LOADING CARRIAGE SHAFT	1
03	SPT2-01	PUSHER	2
04	SPT2-06	SUPPORT JOINT MOTORIZATION	4
05	ELT2-21	MAGNETIC SENSOR	2

8.8 Elevator

TABLE N° 8

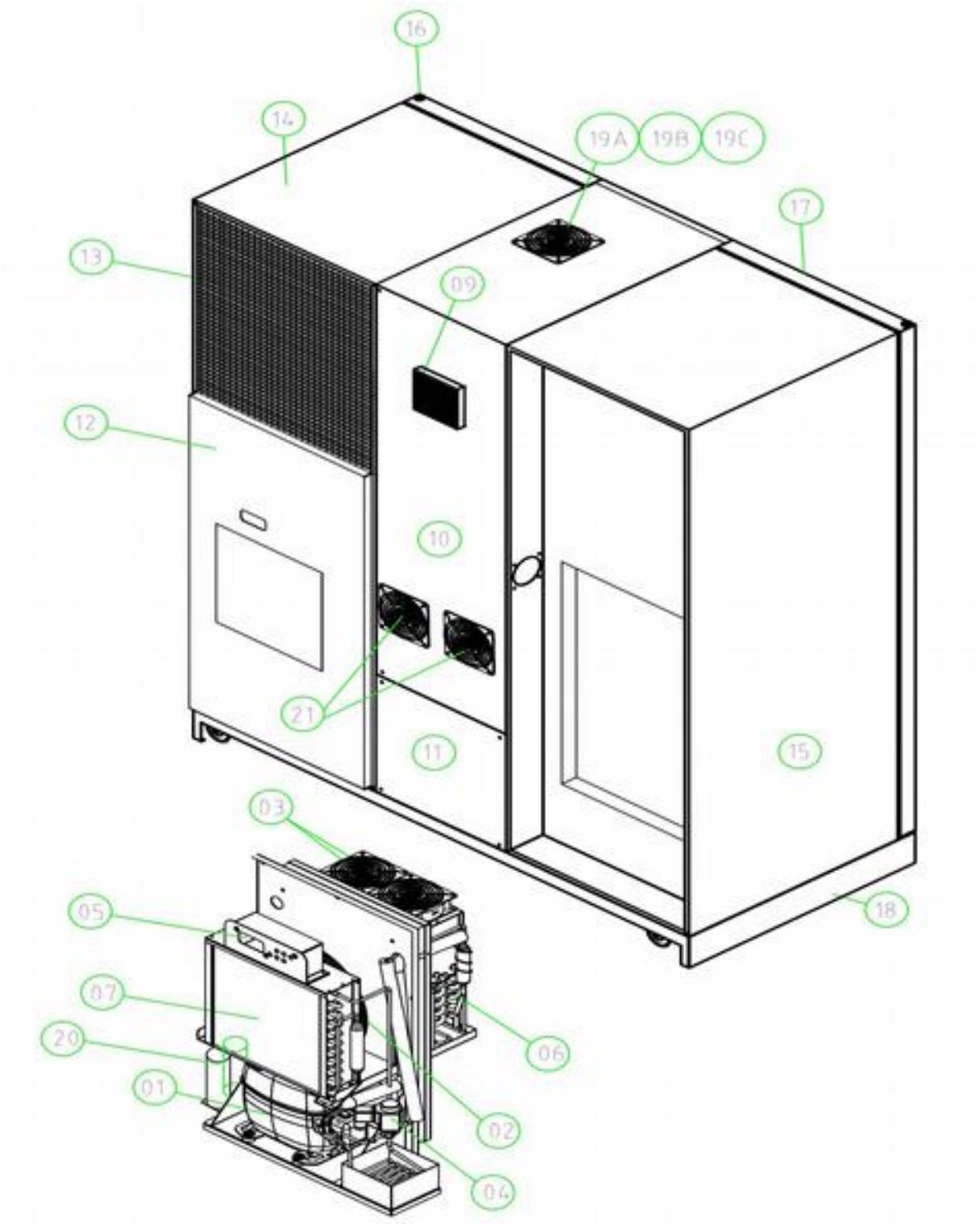


POS	DESIGN N.	DESCRIPTION	Q.TY
01	ELT2-20	10 ELEVATOR TREE	1
02	ELT2-20R	ELEVATOR TREE WITH ENCODER MOTOR	1
03	ELT2-21	MAGNETIC RESISTANT SENSOR MK5117	2
04	ELT2-01_B	ELEVATOR PLATE	1
05		MOTOR	1
06	CMP-01	JOIN MOTOR	1
07	ELT2-02_B	SPECIAL ELEVATOR MOTOR STAGE 2	1

8.9 Fridge unit

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

TABLE N° 9



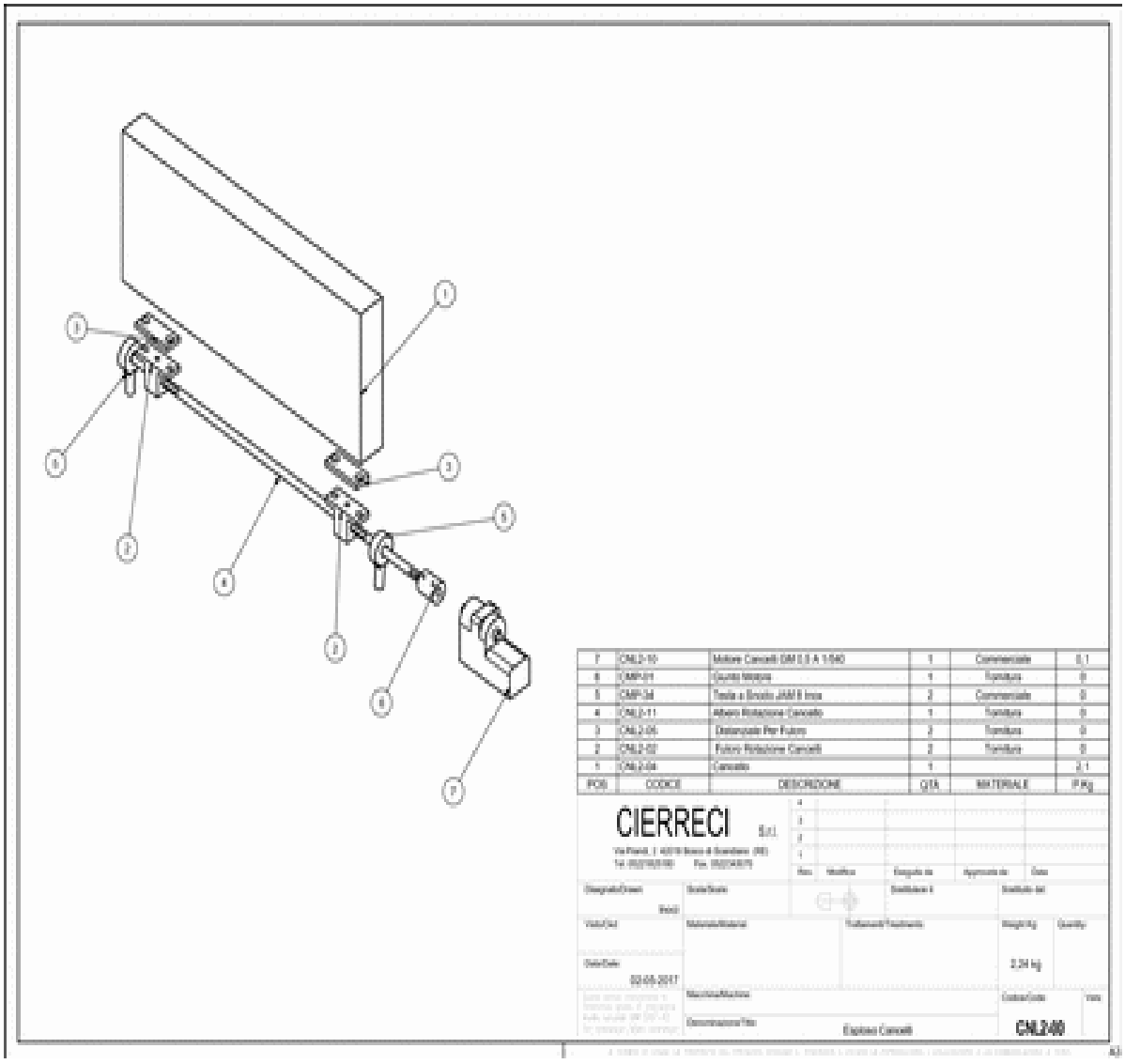
PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

POS	DESIGN N.	DESCRIPTION	Q.TY
01	GFG2-30	COMPRESSOR 110-120/230Volt AC 50/60Hz	2
02	GFG2-31	CONDENSER FAN 230V AC	2
03	GFG2-32	EVAPORATION FAN 24DC	4
04	GFG2-33	ELECTROVALVE	2
05	GFG2-34	EVCO CONTROL UNIT	2
06	GFG2-35	EVAPORATOR	2
07	GFG2-36	CONDENSER	2
08	GFG2-GR.RI.	COOLING UNIT (REFRIGERATING UNIT)	2
09	GFG2- 43	SUCTION FILTER (with grid)	1
10	TFR2-20	BACK DOOR	1
11	TFR2-21	OVEN BACK CARTER	1
12	GFG2-03	LOW BACK CARTER	2
13	GFG2-04	HIGH BACK CARTER	2
14	GFG2-38	RIGHT FRIDGE	1
15	GFG2-39	LEFT FRIDGE	1
16	GFG2-40	RIGHT FRIDGE DOOR	1
17	GFG2-41	LEFT FRIDGE DOOR	1
18	CRL2-01	TROLLEY	1
19A	GFG2- 43	SUCTION FILTER (with grid)	1
19B	GFG2-44	SUCTION FAN	1
19C	TFR2-06	ANTI-INTRUSION GRILL 120	1
20	GFG2-CR-R15	STARTING CONDENSER	2
21	GFG2-44	EXTRACTOR FANS	

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

8.10 Gates

TABLE N° 10



POS	DESIGN N.	DESCRIPTION	Q.TY
01	CNL2-04	GATE (1 FOR FRIDGE)	1

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

02	CNL2-02	FULCRUM ROTATION GATE	2
03	CNL2-05	FULCRUM DISTANCE	2
04	CNL2-11	ROTATE TAPE CANCEL	1
05	CMP-34	HEAD IN SNODO JAM 8 INOX	2
06	CMP-01	JOIN MOTOR	1
07	CNL2-10	MOTOR CANCEL GM 0.5A 1/540	1

Chapter 9. Alarms and solutions list

n°	Alarm	Description	Checks to be made
001	**Error opening serial communication port for dialog with PLC CRC-01**	Alarm due to the opening of the serial communication port for the dialog with the PLC	The program was not able to open the COM communication port dedicated to the dialog with PLC. Unreal, broken, used by another program port. Try to use another port in the program option window, if available.
002	**Communication error with PLC CRC-01**	Alarm due to an error of communication with the PLC	The COM port is usable, but the PLC did not answer to a serial questioning. It may be a transitory problem caused by disturbances, or a permanent problem caused by a defective hardware (broken PLC , compromised serial connections or similar).

003	**Data mapping PLC CRC-01 not in use**	Alarm due to the PLC data mapping not in use	The PLC is not properly configured. Contact support.
004	**Data mapping PLC CRC-01 version not correct**	Alarm due to the PLC data mapping not correct	The PLC program version is not compatible with the PizzaCookingStudio version. Contact support.
005	**Error opening serial communicatio n port for dialog with EVCO.**	Alarm due to the opening of the serial communication port for the dialog with the EVCO central unit	The program was not able to open the COM communication port dedicated to the dialog with one of the two fridge EVCO central unit. Unreal, broken, used by another program port. Try to use another port in the program option window, when available.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

006	**Communication error with EVCO fridge 1**	Alarm due to an error of communication with EVCO central unit	The COM port is usable, but fridge 1 EVCO central unit did not answer to a serial questioning. It may be a transitory problem caused by disturbances, or a permanent problem caused by a defective hardware (broken EVCO central unit, compromised serial connection or similar).
007	**Communication error with EVCO fridge 2**	Alarm due to an error of communication with EVCO central unit	The COM port is usable, but the fridge 2 EVCO central unit did not answer to a serial questioning. It may be a transitory problem caused by disturbances, or a permanent problem caused by a defective hardware (broken EVCO central unit, compromised serial connection or similar).
008	**Running out of disk space available**	Alarm due to the running out of disk space available	The hard disk space is lower the minimum threshold, set through the program options. Clear the archive and modify its autonomy.

009	**Automatic removal of outdated historical events**	Alarm due to the presence of outdated historical events and the consequent automatic removal	Historical events would be removed. To avoid the alarm clear the archive periodically.
010	**Overflow counter total quantity of products delivered**	Alarm due to the reaching of maximum quantity of delivered products	The counter reached its maximum threshold. Reduce the counter manually.
020	**Opening serial communication port error**	Error in opening serial communication port to which the modem is connected	Exit PizzaCookingStudio and verify that other applications didn't open the involved serial port (in that case close those applications and restart PizzaCookingStudio). Alternatively, restart the PC windows or try to use another serial pc port. Ultimately, contact technical support.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

021	**Modem communication error**	PizzaCookingStudio application can't communicate correctly with modem	Verify in program options of PizzaCookingStudio which is the serial port used (usually COM4) and verify the cable connection to serial port of pc and modem. Eventually, restart PC and, contemporarily, restart then modem unplugging and plugging again its power cable. Ultimately, try to use another serial PC port or contact technical support.
22	**reached the minimum stock of pizzas in the fridge of left**	The system warns just that the minimum number of pizzas present in the refrigerator has been reached.	Do refill the left storage cell; click on active alarms option; reset the machine.
23	**reached the minimum stock of pizzas in the fridge of right**	The system warns just that the minimum number of pizzas present in the refrigerator has been reached.	Do refill the right storage cell; click on active alarms option; reset the machine.

050	**Error MDB: coins changer does not communicate to the system**	The coins changer does not comunicate to the PC.	Check electrical connections between PC and coins changer. Check changer enableing on software "Pizza cooking studio" / Program options.
051	**MDB alarm: no banknote reader communicatio n**	Alarm due to lack of communication between PC and notes reader.	Check electrical connections between PC and notes reader. Check notes reader enabling on "Pizza cooking studio" software / program options.
052	**MDB alarm cashless device communicatio n**	Alarm due to lack of communication between PC and cashless device	Check the electrical connection between PC and cashless device. Check cashless device enabling on software "Pizza cooking studio" – program options.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

053	**MDB alarm unsupported decimal places**	Alarm due to non correct setting of decimal places	Check the correct setting of the number of decimal places according to the actual currency on the software "Pizza cooking studio" - program options.
054	**MDB alarm coin acceptor changer no credit**	Alarm due to the n acceptor changer	Check the presence of enough credit into the coin acceptor changer, to enable the correct return of change. the tubes must be filled not less than half full.
055	**MDB alarm coin acceptor changer defective tube sensor**	Alarm due to the non correct functioning of one of the tube sensor	Check which sensor of which tube do not functions correctly in the coin acceptor changer.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

056	**MDB alarm coin acceptor changer acceptor unplugged**	Alarm due to the coin acceptor changer power failure	Check electrical connection between PC and coin acceptor changer.
057	**MDB alarm coin acceptor changer tube jam**	Alarm due to the lack of functioning of one of the coin acceptor changer tubes	Check the presence of foreign bodies inside the coin acceptor changer tubes or any other mechanical cause of block.
058	**MDB alarm coin acceptor changer rom checksum error**	Alarm due to the incorrect operations storage of the coin acceptor changer	By using the changer device manual check any storage error in the coin acceptor changer settings.

059	**MDB alarm coin acceptor changer coin routing error**	Alarm due to incorrect coin routing in the coin acceptor changer	Check any routing error in the coin acceptor changer and remove any blocking coin.
060	**MDB alarm coin acceptor changer coin jam**	Alarm due to a coin block in the coin acceptor changer	Check the coin block in the coin acceptor changer tubes due to a coins routing error.
061	**MDB alarm coin acceptor changer possible credited coin removal**	Alarm due to incorrect credit removal from coin acceptor changer	Check any possible cash short in the coin acceptor changer settings.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

062	**MDB alarm coin acceptor changer slug**	Alarm due to coin acceptor changer slug	Check any possible obstacle cause in the coin acceptor changer settings.
063	**MDB alarm coin acceptor changer tube full**	Alarm due to coin acceptor changer tube fillings over the maximum threshold	Remove some coins from the full pipes. The tubes should not be full and nevertheless they must be filled not less than half.
064	**MDB alarm coin acceptor changer tube empty**	Alarm due to the emptying of one of the tube over the minimum threshold	Refill the tube to the minimum threshold. The pipes should not be full and nevertheless they must be filled not less than half.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

065	**MDB alarm bill validator defective motor**	Alarm due to a lack in the bill validator motor	Check electrical anomalies concerning bill validator motor.
066	**MDB alarm bill validator sensor problem**	Alarm due to the incorrect functioning of one bill validator sensor	Check which bill validator sensor do not work properly.
067	**MDB alarm bill validator rom checksum error**	Alarm due to the incorrect operations storage of the bill validator	Check any storage error in the bill validator settings.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

068	**MDB alarm bill validator validator jammed**	Alarm due to the lack of functioning of bill validator	Check the presence foreign bodies inside the bill validator or bill validator position.
069	**MDB alarm bill validator bill removed**	Alarm due to the incorrect credit removal from bill validator	Check the correct position of the bill validator.
070	**MDB alarm bill validator cash box out of position**	Alarm due to incorrect position of bill validator cash box	Check the correct position of the bill validator cash box.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

071	**MDB alarm bill validator unit disabled**	Alarm due to bill validator power failure	Check electrical connection between PC and bill validator.
072	**MDB alarm bill validator invalid escrow request**	Alarm due to non-recognition of the inserted banknote	Check banknotes receiving and recognition setting.
073	**MDB alarm bill validator possible credited bill removal**	Alarm due to the incorrect credit removal from bill validator	Check the possible credit removal in the bill validator settings.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

074	**MDB alarm bill validator stacker is full**	Alarm due to bill validator filling over the maximum threshold	Check the impossibility to accept further banknotes by the bill validator stacker.
075	**MDB alarm cashless device malfunction error payment media error**	Alarm due to cashless device internal error	Contact cashless device technical assistance to check parameters.
076	**MDB alarm cashless device malfunction error invalid payment media**	Alarm due to cashless device internal error	Contact cashless device technical assistance to check parameters.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

077	**MDB alarm cashless device malfunction error tamper error**	Alarm due to cashless device internal error	Contact cashless device technical assistance and communicate credit tampering from the cashless device.
078	**MDB alarm cashless device malfunction error manufacturer defined error**	Alarm due to cashless device manufacturer error	Contact cashless device technical assistance and communicate the error.
079	**MDB alarm cashless device malfunction error communications error**	Alarm due to cashless device internal error	Check the electrical connection between PC and cashless device. Check cashless device enabling on software "Pizza cooking studio" – program options.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

080	**MDB alarm cashless device malfunction error reader requires service**	Alarm due to cashless device internal error	Contact cashless device technical assistance and communicate the error.
081	**MDB alarm cashless device malfunction error unassigned**	Alarm due to cashless device internal error	Contact cashless device technical assistance and communicate the error.
082	**MDB alarm cashless device malfunction error reader failure**	Alarm due to cashless device internal error	Contact cashless device technical assistance and communicate the error. Remove any foreign bodies from the cashless device.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

083	**MDB alarm cashless device malfunction error payment media jammed**	Alarm due to cashless device internal error	Contact cashless device technical assistance and communicate the error.
084	**MDB alarm cashless device malfunction error refund error internal reader credit lost**	Alarm due to cashless device internal error	Contact cashless device technical assistance and communicate the error.
085	**MDB alarm cashless device command out of sequence**	Alarm due to cashless device internal error	Contact cashless device technical assistance and communicate the error.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

101	**Al. photocell left storage compartment step motor M1S**	Alarm due to lack of the step that should implement the left storage compartment.	Electrically check connection of left M1 motor of left fridge. Mechanically check the motor is moving correctly. Check the correct position of the photocell that should activate when it has in front of itself the compenser fin and it should deactivate whilst the compartment makes a step.
102	**Al. photocell left compartment box**	Alarm due to lack of reading the presence of the box on the left pusher.	The alarm is activated when the compenser performed three steps down, without the photocell reads the presence of a box on the pusher top surface. Check the pizza presence inside the fridge. Check the correct positioning of photocell of B5 position (entrance X233) that has to activate when it detects a box and turns off when free.
103	**Al. left compartment blockage**	Alarm due to lack of release of the pizza box on the left pusher after its forward movement.	Check the correct position of the photocell of B5 position (entrance X233) that has to activate when it read a box in front of it and deactivate when free.
104	**Al. photocell right storage compartment step M2S**	Alarm due to lack of the step that should implement the right storage compenser.	Electrically check connection of left M2 motor of right fridge. Mechanically check the motor is moving correctly. Check the correct position of the photocell that should activate when it has in front of itself the compenser fin and it should deactivate whilst the compartment makes a step.

105	**Al. photocell right compartment box**	Alarm due to lack of reading the presence of the box on the right pusher.	The alarm is activated when the compenser performed three steps down, without the photocell reads the presence of a box on the pusher top surface. Check the pizza presence inside the fridge. Check the correct positioning of photocell of B6 position (entrance X237) that has to activate when it detects a box and turns off when free.
106	**Al. right compartment blockage**	Alarm due to lack of liberation of the box presence on the right pusher after the pusher forward movement.	Check the correct position of the photocell of B6 position (entrance X237) that has to activate when it read a box in front of it and deactivate when free.
107	**Al. forward left pusher photocell**	Alarm due to failure of the limit switch forward left pusher sensor to be reached within the maximum set time.	Electrically check connection of M3 motor and activation of relay K7 and K1 on AP2. Mechanically check the motor is moving correctly. Check the correct functioning of the limit switch forward SQ7 (entrance X234).
108	**Al. backward left pusher photocell**	Alarm due to failure of the limit switch backward left pusher sensor to be reached within the maximum set time.	Electrically check connection of M3 motor and activation of relay K7 and K1 on AP2. Mechanically check the motor is moving correctly. Check the correct functioning of the limit switch forward SQ8 (entrance X235).
109	**Al. forward right pusher photocell**	Alarm due to failure of the limit switch forward right pusher sensor to be reached within the maximum set time.	Electrically check connection of M4 motor and activation of relay K7, K6 and K1 on AP3. Mechanically check the motor is moving correctly. Check the correct functioning of the limit switch forward SQ10 (entrance X238).

110	**Al. backward right pusher photocell**	Alarm due to failure of the limit switch backward right pusher sensor to be reached within the maximum set time.	Electrically check connection of M4 motor and activation of relay K7, K6 and K1 on AP3. Mechanically check the motor is moving correctly. Check the correct functioning of the limit switch forward SQ11 (entrance X239).
111	**Al. "zero" elevator limit switch**	Alarm due to failure of the limit switch "zero" of the elevator within the maximum set time.	Electrically check connection of M5 motor and activation of relay K7 and K2 on AP2. Mechanically check the motor is moving correctly. Check the correct functioning of the limit switch "zero" SQ13 (entrance X2).
112	**Al. elevator encoder**	Alarm due to the failure of reading the elevator encoder functioning within the maximum set time	Electrically check connection of M5 motor and activation of relay K7 and K2 on AP2. Mechanically check the motor is moving correctly. Check the correct functioning of phase A (entrance X0) and of the phase B (entrance X1) of the encoder.
113	**Al. not positioned elevator**	Alarm due to failure of the elevator to reach a predetermined position.	Check the presence of obstacles. Check correct working of all components of elevator too.
114	**Al. forward ejector photocell**	Alarm due to failure of the limit switch forward ejector sensor to be reached within the maximum set time	Electrically check connection of M6 motor and activation of relay K7, K6, and K2 on AP3. Mechanically check the motor is moving correctly. Check the correct functioning of limit switch forward SQ14 (entrance X3).

115	**Al. backward ejector photocell**	Alarm due to failure of the limit switch backward ejector sensor to be reached within the maximum set time	Electrically check connection of M4 motor and activation of relay K7 and K2 on AP3. Mechanically check the motor is moving correctly. Check the correct functioning of limit switch backward SQ15 (entrance X4).
116	**Al. closed hatch photocell**	Alarm due to failure of the limit switch closed hatch sensor to be reached within the maximum set time.	Electrically check connection of M7 motor and activation of relay K7 and K3 on AP2. Mechanically check the motor is moving correctly. Check the correct functioning of limit switch closed SQ16 (entrance X5).
117	**Al. open hatch photocell**	Alarm due to failure of the limit switch open hatch sensor to be reached within the maximum set time.	Electrically check connection of M7 motor and activation of relay K7, K6, and K3 on AP2. Mechanically check the motor is moving correctly. Check the correct functioning of limit switch backward SQ17 (entrance X6).
118	**Al. photocell low mobile oven closed**	Alarm due to failure of the low mobile oven closed sensor to be reached within the maximum set time	Electrically check connection of M8 motor and activation of relay K7, K6, and K3 on AP2. Mechanically check the motor is moving correctly. Check the correct functioning of limit switch closed sensor SQ18 (entrance X7).
119	**Al. photocell high mobile oven opened**	Alarm due to failure of the high mobile oven opened sensor to be reached within the maximum set time	Electrically check connection of M8 motor and activation of relay K7 and K4 on AP2. Mechanically check the motor is moving correctly. Check the correct functioning of limit switch backward sensor SQ19 (entrance X8).

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

120	**Al. "zero" grill limit switch**	Alarm due to failure of the limit switch "zero" of the grill within the maximum set time.	Electrically check connection of M9 motor and activation of relay K7 and K3 on AP3. Mechanically check the motor is moving correctly. Check the correct functioning of the limit switch "zero" SQ21 (entrance X9).
121	**Al. grill encoder**	Alarm due to the failure of reading the grill encoder functioning within the maximum set time	Electrically check connection of M9 motor and activation of relay K7 and K3 on AP2. Mechanically check the motor is moving correctly. Check the correct functioning of phase A (entrance X10) and of the phase B (entrance X11) of the encoder.
122	**Al. not positioned grill**	Alarm due to failure of the grill to reach a predetermined position.	Check the presence of obstacles. Check correct working of all components of grill too.
123	**Al. Left gate closed Limit switch**	Alarm due to failure of the left gate closed limit switch to be reached within the maximum set time	Electrically check connection of M10 motor and activation of relay K7 and K4 on AP3. Mechanically check the motor is moving correctly. Check the correct functioning of closed limit switch SQ22 (entrance X249).
124	**Al. Left gate opened Limit switch**	Alarm due to failure of the left gate opened limit switch to be reached within the maximum set time	Electrically check connection of M10 motor and activation of relay K7, K6 and K4 on AP3. Mechanically check the motor is moving correctly. Check the correct functioning of backward limit switch SQ23 (entrance X250).
125	**Al. right gate closed Limit switch**	Alarm due to failure of the right gate closed limit switch to be reached within the maximum set time	Electrically check connection of M11 motor and activation of relay K7 and K5 on AP3. Mechanically check the motor is moving correctly. Check the correct

			functioning of closed limit switch SQ24 (entrance X251).
126	**Al. right gate opened Limit switch**	Alarm due to failure of the right gate opened limit switch to be reached within the maximum set time	Electrically check connection of M11 motor and activation of relay K7, K6 and K5 on AP3. Mechanically check the motor is moving correctly. Check the correct functioning of backward limit switch SQ25 (entrance X252).
127	**Al. Upper oven lamp**	Alarm due to an anomaly in the EH1 o EH1-1 lamp located in the upper oven	Electrically check the conductivity of the lamps, activation of KMG and power supply on QF3. Subsequently carry out a function check using manual controls.
128	**Al. Lower oven lamp**	Alarm due to an anomaly in the EH2 lamp located in the lower oven	Electrically check the conductivity of the lamps, activation of KMG and power supply on QF3. Subsequently carry out a function check using manual controls.
129	**Al. Oven limit controls**	Alarm due to the intervention of the ST1 or ST2 limit control for the exceeding of the maximum set oven temperature	Electrically check the conductivity of the upper oven limit control ST1 and of the lower oven limit control ST2 and activationof KA4 (entrance X243).
130	**Al. thermocouple T1 oven temperature**	Alarm due to lack of reading the temperature variation whilst oven functioning	Electrically check the conductivity of the thermocouple on clamps 1-J15 and 2-J16 on AP1. Check the integrity of the thermocouple inside the oven. Check the position of the thermocouple.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

131	**Al. Maximum oven temperature**	Alarm due to the oven temperature exceeding threshold of the set oven temperature	Check the integrity of the thermo-couple inside the oven. Check the position of the thermo-couple.
132	**Al. Lack of power 230Vac**	Alarm due to lack of power supply 230Vac to the machine	Check presence of power supply on QF1 and activation of KA5 (entrance X245).
133	**Al. Left fridge door open**	Alarm due to the opening of the left fridge door	Check the correct functioning of limit switch SQ1SX and activation of KA1 (entrance X240).
134	**Al. Right fridge door open**	Alarm due to the opening of the right fridge door	Check the correct functioning of limit switch SQ1DX and activation of KA3 (entrance X242).
135	**Al. oven door open**	Alarm due to the opening of the oven door	Check the correct functioning of limit switch SQ1CX and activation of KA2 (entrance X241).
136	**Al. crushing upper oven**	Alarm due to the intervention of limit switch for the oven anti-crushing	Check the elevator position and the correct functioning of limit switch SQ12 (entrance X248).

141	**Al. Left fridge empty**	Alarm due to depletion of left fridge products	Refill LEFT fridge as soon as possible and update PizzaCookingstudio load storage window.
142	**Al. left fridge expired pizzas**	Alarm due to exceeding the set expiry date of the left fridge product	Take the expired product out of the left fridge as soon as possible.
143	**Al. Right fridge empty**	Alarm due to depletion of right fridge products	Refill RIGHT fridge as soon as possible and update PizzaCookingstudio load storage window.
144	**Al. right fridge expired pizzas**	Alarm due to exceeding the set expiry date of the right fridge product	Take the expired product out of the right fridge as soon as possible.
145	**Al. Machine out of order**	General alarm due to the impossibility of suppling the product	Check the current alarms Being a generic alarm it necessary to have more details to identify the causes of the malfunction.
146	**Al. Product exit**	Alarm due to the presence of a product in the oven when switching the machine on	Make sure that transit points and the oven are rid of any obstacle like a residues of pizza or boxes.
147	**Al. timeout lack of power 230Vac**	Alarm due to expiring timeout on lack of power supply 230Vac	Check presence of power supply on QF1 and activation of KA5 (entrance X245).

148	**Alarm fridge of left side: compromised products inside**	Alarm due to the overrun of the storage time for the individual pizzas loaded in the left side refrigerator / or the left side refrigerator defect in relation to regulations in regards of maintaining the temperature prescribed by the local law	Verify that the pizzas loaded in the refrigerator are stored for a time not longer than the 5/6 days as the Law; if these are older then replace them and upgrade PIzzaCookingStudio software. Check that the refrigerator temperature is in accordance with the temperature as the local low; contact technical assistance in case the refrigerant system is compromised.
149	**Alarm fridge of right side: compromised products inside**	Alarm due to the overrun of the storage time for the individual pizzas loaded in the right side refrigerator / or the right side refrigerator defect in relation to regulations in regards of maintaining the temperature prescribed by the local law	Verify that the pizzas loaded in the refrigerator are stored for a time not longer than the 5/6 days as the Law; if these are older then replace them and upgrade PIzzaCookingStudio software. Check that the refrigerator temperature is in accordance with the temperature as the local low; contact technical assistance in case the refrigerant system is compromised.
150	**"Escrow" error. Command timeout alarm For MDB device "Coin Acceptor / Changer"**	Alarm regarding a malfunction of the coins changer motor lever in the part that returns money	Check that there are no objects inside the device that prevent the motor from performing the correct and complete mechanical maneuver for returning the money. Check in general that the changer is not broken. Check that the device is properly set up by software.
151	**Alarm pizza box absent from the elevator plate**	Notification alarm indicating the absence of the pizza box over the elevator when this is in the standby position during the cooking of pizza.	Make sure that the pizza box is not stuck between the oven mobile parts or stuck to the cooking grid.

152	**Alarm ejector - limit forward / backward**	Alarm due to failure to complete the ejector movement	Mechanically check that there are no objects that block it from moving. check the sensors correct position. Controlling in Program Options that the delay times given are not too short.
153	**Alarm hatch - limit closed / opened**	Alarm due to failure to complete the hatch movement	Mechanically check that there are no objects that block it from moving. check the sensors correct position. Controlling in Program Options that the delay times given are not too short. Controlling the side guides are not broken or bent.
154	**Alarm lower hatch - limit closed / opened**	Alarm due to failure of the lower oven proper movement	Check the sensors correct position.
155	**Alarm left pusher - limit forward / backward**	Alarm due to failure to complete the proper pusher movement	Mechanically check that there are no objects that block it from moving. check the sensors correct position. Controlling in Program Options that the delay times given are not too short.
156	**Alarm right pusher - limit forward / backward**	Alarm due to failure to complete the proper pusher movement	Mechanically check that there are no objects that block it from moving. check the sensors correct position. Controlling in Program Options that the delay times given are not too short.

157	**Alarm left gate - limit closed / opened**	Alarm due to failure to complete the left gate movement	Mechanically check that there are no objects that block it from moving.
158	**Alarm right gate - limit closed / opened**	Alarm due to failure to complete the right gate movement	Mechanically check that there are no objects that block it from moving.
159	**Al. photocell left storage compartment step motor M1D**	Alarm due to lack of the step that should implement the left storage compartment	Electrically check connection of right M1 motor of left fridge. Mechanically check the motor is moving correctly. Check the correct position of the photocell that should activate when it has in front of itself the compenser fin and it should deactivate whilst the compartment makes a step.
160	**Al. photocell right storage compartment step M2D**	Alarm due to lack of the step that should implement the right storage compenser	Electrically check connection of right M2 motor of right fridge. Mechanically check the motor is moving correctly. Check the correct position of the photocell that should activate when it has in front of itself the compenser fin and it should deactivate whilst the compartment makes a step.
161	**Alarm of lower oven crushing**	Alarm due to the failure to achieve the correct position by the lower oven	make sure that objects do not prevent the device from reaching the correct position. Check for proper operation of the start and end of stroke sensors.
162	**Alarm of elevator limit switch zero/stop position not reached**	Alarm due to failure to achieve the zero position by the elevator	make sure that objects do not prevent the device from reaching the correct position. Check for for the proper setting in PizzaCookignstudio.

200	**AL. left fridge PLC**	Alarm due to lack of communication between PLC and EVCO control unit	Check electrical connection between PLC and EVCO control unit.
300	**Al. right fridge PLC**	Alarm due to lack of communication between PLC and EVCO control unit	Check electrical connection between PLC and EVCO control unit.
201	**Al. left fridge exceeding of minimum threshold**	Alarm of timed control about achievement of target temperature set	Warning alarm about a possible critical state to be checked.
301	**Al. right fridge exceeding of minimum threshold**	Alarm of timed control about achievement of target temperature set	Warning alarm about a possible critical state to be checked.
202	**Al. left fridge exceeding of maximum threshold**	Alarm of timed control about achievement of target temperature set	Warning alarm about a possible critical state to be checked.
302	**Al. right fridge exceeding of maximum threshold**	Alarm of timed control about achievement of target temperature set	Warning alarm about a possible critical state to be checked.
203	**Al. left fridge exceeding of maximum condenser threshold**	Alarm due to exceeding of maximum condenser temperature threshold	Check that condenser sensor is attached to output pipe and check cleaning and ventilation of condenser *.
303	**Al. right fridge exceeding of maximum condenser threshold**	Alarm due to exceeding of maximum condenser temperature threshold	Check that condenser sensor is attached to output pipe and check cleaning and ventilation of condenser *.

204	**Al. left fridge defrost ending for maximum time**	Alarm due to the reaching of the maximum temperature for defrosting	Not binding error for machine functioning. Reset alarms.
304	**Al. right fridge defrost ending for maximum time**	Alarm due to the reaching of the maximum temperature for defrosting	Not binding error for machine functioning. Reset alarms.
205	**Al. left fridge opened door**	Alarm due to missing permission to close left fridge door	Check that mechanical door closing works properly and check stroke limit of magnetic sensor.
305	**Al. right fridge opened door**	Alarm due to missing permission to close right fridge door	Check that mechanical door closing works properly and check stroke limit of magnetic sensor.
206	**Al. left fridge multifunction entrance**	Alarm due to parameter settings loss in EVCO central unit	Check the status of buffer battery of EVCO central unit.
306	**Al. right fridge multifunction entrance**	Alarm due to parameter settings loss in EVCO central unit	Check the status of buffer battery of EVCO central unit.
207	**Al. left fridge blocked tool**	Alarm due to a block of the EVCO central unit	Power cycle the EVCO central unit.
307	**Al. right fridge blocked tool**	Alarm due to a block of the EVCO central unit	Power cycle the EVCO central unit.
208	**Al. left fridge RTC Error**	Alarm due to the low battery buffer	Replace the buffer battery.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

308	**Al. right fridge RTC Error**	Alarm due to the low battery buffer	Replace the buffer battery.
209	**Al. left fridge broken cell probe**	Alarm due to a broken of the left fridge cell probe	Check the probe electrical connection on the EVCO central unit or proceed with the probe replacement.
309	**Al. right fridge broken cell probe**	Alarm due to a failure of the right fridge cell probe	Check the probe electrical connection on the EVCO central unit or proceed with the probe replacement.
210	**Al. left fridge broken steamer probe**	Alarm due to a failure of the left fridge steamer probe	Check the probe electrical connection on the EVCO central unit or proceed with the probe replacement.
310	**Al. right fridge broken steamer probe**	Alarm due to a failure of the right fridge steamer probe	Check the probe electrical connection on the EVCO central unit or proceed with the probe replacement.
211	**Al. left fridge broken condenser probe**	Alarm due to a failure of the left condenser probe	Check the probe electrical connection on the EVCO central unit or proceed with the probe replacement.
311	**Al. right fridge broken condenser probe**	Alarm due to a failure of the right condenser probe	Check the probe electrical connection on the EVCO central unit or proceed with the probe replacement.
212	**Al. left fridge minimum temperature**	Alarm due to exceeding of minimum left fridge temperature threshold	Check correct working of all components including compressor relay *.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

312	**Al. right fridge minimum temperature**	Alarm due to exceeding of minimum right fridge temperature threshold	Check correct working of all components including compressor relay *.
213	**Al. left fridge maximum temperature**	Alarm due to exceeding of maximum left fridge threshold	Check cleaning of left condenser and correct working of all components. Check gas pressure too *.
313	**Al. right fridge maximum temperature**	Alarm due to exceeding of maximum right fridge threshold	Check cleaning of right condenser and correct working of all components. Check gas pressure too *.
214	**Al. left fridge blocked compressor**	Alarm due to a block of the left fridge compressor	Check the electrical connections to the compressor or the high temperature reached.
314	**Al. right fridge blocked compressor**	Alarm due to a block of the right fridge compressor	Check the electrical connections to the compressor or the high temperature reached.
215	**Al. left fridge overheated condensor**	Alarm due to exceeding of maximum condenser temperature threshold	Check that condenser sensor is attached to output pipe and check cleaning and ventilation of condenser *.
315	**Al. right fridge overheated condensor**	Alarm due to exceeding of maximum condenser temperature threshold	Check that condenser sensor is attached to output pipe and check cleaning and ventilation of condenser *.
216	**Al. left fridge service required**	Contact EVCO assistance	Contact EVCO assistance.
316	**Al. right fridge service required**	Contact EVCO assistance	Contact EVCO assistance.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

217	**Al. left fridge power failure**	Alarm due to lack of network voltage	Check network voltage presence or change the power supply socket.
317	**Al. right fridge power failure**	Alarm due to lack of network voltage	Check network voltage presence or change the power supply socket.
218	**Al. left fridge broken HACCP storage**	Alarm due to the exceeding of maximum storage capacity of the HACCP data	Check presence of further storage capacity of the HACCP data in the EVCO central unit.
318	**Al. right fridge broken HACCP storage**	Alarm due to the exceeding of maximum storage capacity of the HACCP data	Check presence of further storage capacity of the HACCP data in the EVCO central unit.

Chapter 10. Default software settings for alarms properties

Alarm	Alarm number	Masked or not masked	Fridge Out of Order	Damaged product
Left compenser step photocell alarm	101	Not masked	True	False
Left compenser box presence photocell alarm	102	Not masked	True	False
Left compenser obstruction alarm	103	Not masked	True	False

Right compenser step photocell alarm	104	Not masked	True	False
Right compenser box presence photocell alarm	105	Not masked	True	False
Right compenser obstruction alarm	106	Not masked	True	False
Left pusher forward limit switch alarm	107	Not masked	True	False
Left pusher backward limit switch alarm	108	Not masked	True	False
Right pusher forward limit switch alarm	109	Not masked	True	False
Right pusher backward limit switch alarm	110	Not masked	True	False
Elevator "zero" limit-switch alarm	111	Not masked		
Elevator encoder alarm	112	Not masked		
Elevator out of position alarm	113	Not masked		
Ejector forward limit-switch alarm	114	Not masked		
Ejector backward limit-switch alarm	115	Not masked		
Hatch closed limit-switch alarm	116	Not masked		
Hatch open limit-switch alarm	117	Not masked		
Lower oven closed limit-switch alarm	118	Not masked		
Lower oven open limit-switch alarm	119	Not masked		
Grill "zero" limit-switch alarm	120	Not masked		
Grill encoder alarm	121	Not masked		
Grill out of position alarm	122	Not masked		
Left gate closed limit-switch alarm	123	Not masked	True	False
Left gate opened limit-switch alarm	124	Not masked	True	False
Right gate closed limit-switch alarm	125	Not masked	True	False
Right gate opened limit-switch alarm	126	Not masked	True	False
Upper oven lamps alarm	127	Not masked		
Lower oven lamps alarm	128	Not		

		masked		
Oven safety thermostats alarm	129	Not masked		
T1 Thermocouple oven temperature alarm	130	Not masked		
Max oven temperature alarm	131	Not masked		
Main power supply (230 Vac) absence alarm	132	Not masked		
Left fridge door opened alarm	133	Not masked	True	False
Right fridge door opened alarm	134	Not masked	True	False
Oven door opened alarm	135	Not masked		
Alarm safety elevator or lower oven	136	Not masked		
Left fridge empty alarm	141	Not masked	True	True
Left fridge expired products alarm	142	Not masked	True	True
Right fridge empty alarm	143	Not masked	True	True
Right fridge expired products alarm	144	Not masked	True	True
Machine out of order alarm	145	Not masked		
Pizza evacuation alarm	146	Not masked		
Main power supply (230 Vac) timeout alarm	147	Not masked		
damaged products on left fridge alarm	148	Not masked	True	
damaged products on right fridge alarm	149	Not masked	True	
timeout "Escrow" control alarm for MDB "Coin Acceptor/Changer" device	150	Masked		
Alarm no boxes on forklift	151	Masked		
Alarm – limit switch forward back - ejecter	152	Not Masked	True	Falso
Alarm – limit switch open close – hetch	153	Not Masked	True	Falso
Alarm – limit switch open close – lower oven	154	Not Masked	True	Falso
Alarm – limit switch forward back – pusher of left	155	Not Masked	True	Falso

Alarm – limit switch forward back – pusher of right	156	Not Masked	True	Falso
Alarm – limit switch forward back – gate of left	157	Not Masked	True	Falso
Alarm – limit switch forward back – gate of right	158	Not Masked	True	False
Alarm photocell step-on of M1D motor of compenser of left side	159	Not Masked	True	False
Alarm photocell step-on of M2D motor of compenser of right side	160	Not Masked	True	False
Alarm crush lower oven	161	Not Masked	True	False
Alarm – limit switch - zero/stop - Elevator	162	Not Masked	True	False
PLC Alarm Left fridge	200	Not masked	True	True
Minimum threshold left fridge exceeded	201	Not masked	False	False
Maximum threshold left fridge exceeded	202	Not masked	True	True
Maximum threshold left fridge condenser exceeded	203	Not masked	False	False
defrost ended for maximum time left fridge	204	Not masked	False	False
left fridge door alarm	205	Not masked	True	False
left fridge multifunction input alarm	206	Not masked	False	False
left fridge instrument blocked alarm	207	Not masked	True	True
left fridge RTC error	208	Not masked	False	False
left fridge cell faulty probe	209	Not masked	True	True
left fridge evaporator faulty probe	210	Not masked	True	True
left fridge condenser faulty probe	211	Not masked	True	True
left fridge minimum temperature alarm	212	Not masked	False	False
left fridge maximum temperature alarm	213	Not masked	True	True
left fridge blocked compressor alarm	214	Not masked	True	True
left fridge overheated condenser alarm	215	Not masked	False	False

left fridge assistance required	216	Not masked	False	False
left fridge power failure alarm	217	Not masked	False	False
Left fridge faulty HACCP storage	218	Not masked	True	True
PLC Alarm Right fridge	300	Not masked	True	True
Minimum threshold right fridge exceeded	301	Not masked	False	False
Maximum threshold right fridge exceeded	302	Not masked	True	True
Maximum threshold right fridge condenser exceeded	303	Not masked	False	False
defrost ended for maximum time right fridge	304	Not masked	False	False
Right fridge door alarm	305	Not masked	True	True
right fridge multifunction input alarm	306	Not masked	False	False
right fridge instrument blocked alarm	307	Not masked	True	True
right fridge RTC error	308	Not masked	False	False
right fridge cell faulty probe	309	Not masked	True	True
right fridge evaporator faulty probe	310	Not masked	True	True
right fridge condenser faulty probe	311	Not masked	True	True
right fridge minimum temperature alarm	312	Not masked	False	False
right fridge maximum temperature alarm	313	Not masked	True	True
right fridge blocked compressor alarm	314	Not masked	True	True
right fridge overheated condenser alarm	315	Not masked	False	False
right fridge assistance required	316	Not masked	False	False
right fridge power failure alarm	317	Not masked	False	False
right fridge faulty HACCP storage	318	Not masked	True	True
Alarm communication coin changer	50	Not masked	True	False
Alarm communication notes reader	51	Not masse	True	False
Errore comunicazione Lettore Carte di Credito	52	Not masked	True	False

MDB unsupported decimal places alarm	53	Not masked		
MDB coin acceptor changer no credit alarm	54	Not masked		
MDB coin acceptor changer defective tube sensor alarm	55	Not masked		
MDB coin acceptor changer acceptor unplugged alarm	56	Not masked		
MDB coin acceptor changer tube jam alarm	57	Not masked		
MDB coin acceptor changer rom checksum error alarm	58	Not masked		
MDB coin acceptor changer coin routing error alarm	59	Not masked		
MDB coin acceptor changer coin jam alarm	60	Not masked		
MDB coin acceptor changer possible credited coin removal alarm	61	Not masked		
MDB coin acceptor changer slug alarm	62	Not masked		
MDB coin acceptor changer tube full alarm	63	Not masked		
MDB coin acceptor changer tube empty alarm	64	Not masked		
MDB bill validator defective motor alarm	65	Not masked		
MDB bill validator sensor problem alarm	66	Not masked		
MDB bill validator rom checksum error alarm	67	Not masked		
MDB bill validator validator jammed alarm	68	Not masked		
MDB bill validator bill removed alarm	69	Not masked		
MDB bill validator cash box out of position alarm	70	Not masked		
MDB bill validator unit disabled alarm	71	Masked		
MDB bill validator invalid escrow request alarm	72	Not masked		
MDB bill validator possible credited bill removal alarm	73	Not masked		
MDB bill validator stacker is full alarm	74	Not masked		
MDB cashless device malfunction error payment media error alarm	75	Not masked		
MDB cashless device malfunction error invalid payment media alarm	76	Not masked		
MDB cashless device malfunction error tamper error alarm	77	Not masked		

MDB cashless device malfunction error manufacturer defined error alarm	78	Not masked		
MDB cashless device malfunction error communications error alarm	79	Not masked		
MDB cashless device malfunction error reader requires service alarm	80	Not masked		
MDB cashless device malfunction error unassigned alarm	81	Not masked		
MDB cashless device malfunction error reader failure alarm	82	Not masked		
MDB cashless device malfunction error payment media jammed	83	Not masked		
MDB cashless device malfunction error refund error internal reader credit lost alarm	84	Not masked		
MDB cashless device command out of sequence alarm	85	Not masked		

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Chapter 11. Machine components technical documentation

11.1 Default operating settings for fridges according to NAMA(USA) and NSF regulations. (simplified list).

Description	Parameter	°F	°C
Cell probe correction	CA1	0	0
Evaporator probe correction	CA2	0	0
Condenser probe correction	CA3	0	0
Decimal point display	P1	1	1
Unit of measurement degrees **F** or **C**	P2	1	0
Evaporator probe enabling	P3	2	2
Condenser probe enabling	P4	1	1
Delay in displaying temperatures of probes	P8	5	5
Working set point difference	R0	4	2
Minimum working set point	R1	-4	-20
Maximum working set point	R2	0	-18
Set point change blocked	R3	0	0
Energy saving	R4	0	0
Decrease overcooling	R5	0	0
Duration overcooling - MINUTES	R6	30	30
Minimum temperature difference	R7	10	10
Delay in switching on compressor after the instrument switches on - MIN	C0	0	0
Minimum time between two consecutive switches - MIN	C1	5	5
Minimum duration of compressor switch off time - MIN	C2	3	3
Minimum duration of compressor switch on time - S	C3	0	0
Duration of compressor switch off during cell probe error - MIN	C4	10	10
Duration of compressor switch on during cell probe error - MIN	C5	10	10
Condenser temperature is higher than that at which the condenser overheating alarm is activated	C6	140	60
Condenser temperature is higher than the limit at which the	C7	150	66

compressor blocked alarm is activated			
Compressor alarm delay locked	C8	1	1
Number of operating hours is higher than the limit at which the need for maintenance is signaled - HOURS	C10	0	0
Defrosting interval - HOURS	D0	6	6
Defrosting type (hot gas)	D1	1	1
Temperature at end of defrosting	D2	41	5
Defrosting duration - MIN	D3	10	10
Defrosting when instrument is switched on	D4	0	0
Minimum time between switching on of instrument and activation of defrosting	D5	0	0
Temperature displayed during defrosting	D6	1	1
Dripping duration - MIN	D7	3	3
Defrosting activation methods*	**D8**	0	0
Evaporator temperature is higher than that at which the defrost interval counter is suspended	D9	0	0
Defrosting alarm switches off once maximum time limit has been reached	D11	1	1
Minimum time that the compressor must be switched on before defrosting can be activated	D15	1	1
Predripping duration (compressor switched off)	D16	0	0
Number of evaporator temperature values used for calculation of the relative average	D17	1	1
not used	D18	40	40
not used	D19	3	3
not used	D20	180	180
not used	D21	200	200
not used	D22	2	2
not used	D23	1	1
Temperature associated with the minimum temperature alarm	A0	0	0
Temperature below that at which the minimum temperature alarm is activated	A1	-9	-22
Type of minimum temperature alarm	A2	2	2
Temperature higher than that at which the maximum temperature alarm is activated	A4	25	-4
Type of maximum temperature alarm	A5	2	2

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Delay of maximum temperature alarm	A6	120	120
Temperature delay alarm	A7	15	15
Delay in maximum temperature alarm	A8	75	75
Delay in maximum temperature alarm following the deactivation of the door micro switch input	A9	75	75
Duration of interruption in the power supply that occurs when the instrument has been running for long enough to cause the storage of the power interruption alarm when the power supply is restored	A10	30	30
Differential of parameters A1 and A4	A11	2	2
Kind of signal for power interruption alarm	A12	1	1
Evaporator fan activity during normal operation	F0	3	3
Evaporator temperature above the limit at which the evaporator fan is switched off	F1	23	-5
Evaporator fan activity during defrosting and dripping	F2	0	0
Maximum duration of evaporator fan deactivation	F3	2	2
Time duration that evaporator fan is switched off during operation for a low percentage of relative humidity when the compressor is switched off	F4	60	60
Time duration that evaporator fan is switched on during operation for a low percentage of relative humidity when the compressor is switched off	F5	10	10
Operation for low or high percentage of relative humidity	F6	0	0
Evaporator temperature below limit at which the evaporator fan is deactivated	F7	5	-5
Parameter F1 differential	F8	2	2
Delay in the switching off of evaporator fan following the switching off of the compressor	F9	0	0
Condenser temperature above that at which the condenser fan is switched on	F11	75	25
Delay in switching off of the condenser fan following the switching off of the compressor	F12	90	90
Time the evaporator fan remains turned off during function energy saving	F13	5	5
Time the evaporator fan remains turned on during function energy saving	F14	5	5
Effect caused by the activation of the door micro switch input	i0	4	4
Type of door micro switch input contact	i1	0	0
Delay in signaling of door micro switch input alarm - MIN	i2	30	30

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Maximum duration of the effect caused by activation of door micro switch on the compressor and evaporator fan	i3	-1	-1
Storage of door micro switch input alarm	i4	0	0
Effect caused by the activation of the multifunction input	i5	2	2
Type of multifunction input contact	i6	0	0
Multifunction input alarm delay	i7	0	0
Number of multifunction input alarms	i8	0	0
Time that must pass in absence of multifunction output alarms	i9	240	240
Time without activations of the door micro switch input in order that function energy saving is activated automatically	i10	0	0
Minimum time the door switch input must be activated for the defrost activation - s	i11	15	15
Minimum time altogether the door switch input must be activated for the defrost activation - s	i12	60	60
Number of door switch input activation such as to provoke the defrost activation	i13	180	180
Minimum duration of the door switch input activation such as to provoke the defrost activation	i14	32	32
Operation controlled by fourth output (condenser fan)	U1	6	6
Cell light activation	U2	0	0
Buzzer output deactivation	U4	1	1
Temperature below that at which the door resistors are switched off	U5	41	5
Operating time of demistor resistors	U6	5	5
Cell temperature below that at which the evaporator valve is deactivated	U7	4	4
Type of evaporator valve contact	U8	0	0
Buzzer output activation	U9	0	0
Operation controlled by fifth output (condenser fan)	U11	6	6
Energy saving parameters	HE1	nu	nu
Energy saving parameters	HE2	nu	nu
Time of activation of first defrosting period in real time	HD1	nu	nu
Time of activation of second defrosting period in real time	HD2	nu	nu
Time of activation of third defrosting period in real time	HD3	nu	nu
Time of activation of fourth defrosting period in real time	HD4	nu	nu
Time of activation of fifth defrosting period in real time	HD5	nu	nu

Time of activation of sixth defrosting period in real time	HD6	nu	nu
Right fridge 485 address	LA Dx	2	2
Left fridge 485 address	LA Sx	1	1
Transmission speed	LB	3	3
parity	LP	2	2
Maximum setpoint	SP	-4	-20

***In order to set an automatic defrosting activation by means of the fridge digital controller EVX215, do as follow:**

1) Press both arrows. 2) once you get PA then press SET. 3) reach number -19 hence press SET. 4) Press both arrows again so press SET on PA. 5) assign to parameter D8=4, thus press SET. 6) reach parameters HD1, HD2, HD3, HD4, HD5, HD6 and assign to them the wanted defrosting range time like, HD1=22:00, HD2=23:59, HD3= 02:00 and so on.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

11.2 Documentation of EVCO control unit for fridges

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Eliwell S.p.A. • Code 1AN0201E314 • page 1/8

EVX Series Digital Controllers for Static and Ventilated Refrigeration Display Cabinets

version 3.02

EN ENGLISH

1 IMPORTANT

1.1 Important

Carefully read these instructions before installing and using the product. Pay close attention to the notes on installation and electrical wiring connections. Save these instructions together with the instrument for future reference.

The instrument must be disposed of in accordance with local laws on the collection of electrical and electronic equipment.

2 INTRODUCTION

2.1 Introduction

EVX is a new range of digital controllers for the operation of static and ventilated refrigerating cabinets.

The series is composed of the following models:

- EVX201 - for the operation of static refrigerated cabinets, with simple HACCP function.
- EVX203, EVX204 and EVX205 - for the operation of ventilated refrigerated cabinets, with simple HACCP function.
- EVX214 and EVX215 - for the operation of ventilated refrigerated cabinets, with timer, advanced HACCP function and an Energy Saving function.

EVX201 is equipped with:

- 1 measurement input (cell probe) for NTC probes
- 1 digital input (door microswitch)
- 1 digital output (relay) for compressor operation (16 A @ 250 VAC); defrosting occurs when the compressor is stopped.

EVX203 is equipped with:

- 2 measurement inputs (cell probe and evaporator probe) for NTC probes
- 1 digital input (door microswitch)
- 3 digital outputs (relay) for compressor operation (16 A @ 250 VAC), defrosting and the evaporator fan; defrosting may be either electrical or by hot gas.

EVX204 and EVX205 are equipped with:

- 3 measure inputs (cell probe, evaporator probe and condenser probe) for NTC probes
- 2 digital inputs (door microswitch and multifunction)
- 4 digital outputs (relay; 5 for EVX205) for operation of the compressor (30 A @ 250 VAC), defroster, the evaporator fan, a fourth and a fifth use (programmable as cell light, dimmer resistor, auxiliary output, output alarm, door resistor, evaporator valve or condenser fan); defrosting may be electric or by hot gas.

EVX214 and EVX215 are equipped with:

- Real Time Clock
- 3 measure inputs (cell probe, evaporator probe and condenser probe) for NTC probes
- 2 digital inputs (door microswitch and multifunction)
- 4 digital outputs (relay; 5 for EVX215) for operation of the compressor (30 A @ 250 VAC), defroster, the evaporator fan, a fourth and a fifth use (programmable as cell light, dimmer resistor, auxiliary output, output alarm, door resistor, evaporator valve or condenser fan); defrosting may be electric or by hot gas.

The models are open (without covers); the user interface consists of a 4 digit custom display (with decimal points and functional icons) and by six buttons (SET, UP, DOWN, DEFROST, AUXILIARY and ON/STAND-BY).

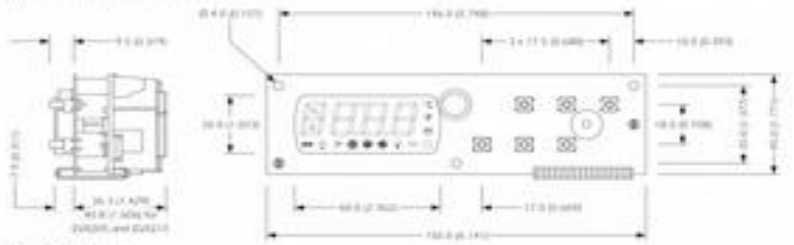
Installation is completed via back panel using M3 studs.

Using the EVKEY programming key (to be ordered separately) it is possible to carry out the uploading and downloading of the configuration parameters; it is also possible to connect the controllers (RC) supervision system (via serial interface, via TTL, with MODBUS communications protocol).

3 DIMENSIONS AND INSTALLATION

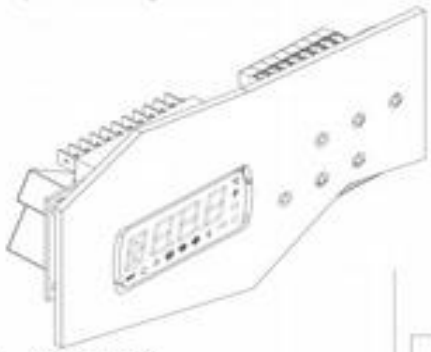
3.1 Dimensions

The dimensions are expressed in mm (in).



3.2 Installation

Back panel installation using M3 studs.



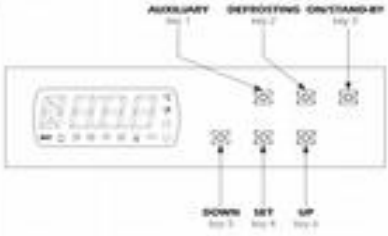
3.3 Installation notes

- make sure that the working conditions (operating temperature, humidity, etc.) fall within the limits indicated in the technical specifications.
- do not install the device near heat sources (radiators, hot air ducts, etc.), near devices with strong magnets (large diffusion etc.) and places subject to direct sunlight, rain, humidity, excessive dust, mechanical vibrations or shaking.
- in accordance with laws on safety, protection against possible contact with electrical parts must be ensured via the correct installation of the instrument; all the parts that ensure such protection must be secured in such a way that they cannot be removed without the using a special tool.

4 USER INTERFACE

4.1 Preliminary signals

The user interface consists of a custom 4-digit display (with decimal points and function icons) and six keys (SET, UP, DOWN, DEFROST, AUXILIARY and ON/STAND-BY).



Operating Statuses

- "on" status (the instrument is powered and on; the regulation can be switched on)
- "standby" status (the instrument is powered but is switched off via software; the regulation are switched off; the possibility to manually switch on/switch off the cell light or auxiliary output depends on parameter u2)
- "off" status (the instrument is not powered).

Hereafter, with the word "start-up" means the passage from standby status to on status; the word "shutdown" means the passage from on status to standby status.

When in a power is switched back on, the instrument displays the status that it was in at the time it was disconnected.

4.2 Manual switching on/off of the instrument

- make sure that the keyboard is not locked and that no other operation is in progress
- press and hold down the **ON/STAND-BY** key for 2 sec; the on/standby LED will switch off/on.

For EVX204, EVX214, EVX205 and EVX215:

Using the multifunction input it is possible to remotely switch on/off the instrument.

4.3 The display

If the instrument is switched on, during normal operation, the display will show the cell temperature, except during defrosting, when the instrument will show the temperature established with parameter dE.

If the instrument is switched off, the display will be switched off.

4.4 Evaporator temperature display (but EVX201)

- make sure that the keyboard is not locked and that no other operation is in progress
- press down the **DOWN** key for 1 sec; the display will show the first available label
- press and release the **UP** or the **DOWN** key to select "**Pb2**"
- press and release the **SET** key.

To exit the procedure:

- press and release the **SET** key and do not operate for 60 sec
- press and release the **UP** key and the **DOWN** key until the display shows the cell temperature and then do not operate for 60 sec.

Alternatively:

- press and release the **ON/STAND-BY** key.

If the evaporator probe is absent (parameter P3 = 0), the label "**Pb2**" will not be displayed.

4.5 Condenser temperature display (EVX204, EVX214, EVX205 and EVX215 only)

- make sure that the keyboard is not locked and that no other operation is in progress
- press down the **DOWN** key for 1 sec; the display will show the first label available
- press and release the **UP** key or the **DOWN** key to select "**Pb3**"
- press and release the **SET** key.

To exit the procedure:

- press and release the **SET** key and then do not operate for 60 sec
- press and release the **UP** or **DOWN** key until the display shows the cell temperature and then do not operate for 60 sec.

Alternatively:

- press and release the **ON/STAND-BY** key.

If the condenser probe is absent (parameter P4 = 0), the label "**Pb3**" will not be displayed.

4.6 Activation/disactivation of Overcooling function

- make sure that the keyboard is not locked and that no other operation is in progress, that defrosting and/or dripping is not in progress and that the evaporator fan is off (the last two but EVX201)
- press and hold down the **UP** key for 4 sec; the Overcooling LED will light up.

During the Overcooling function the working setpoint is reduced by the temperature established with parameter rS; the operation lasts for the amount of time established with parameter rd. During Overcooling defrosting is never activated; if the defrosting interval expires when the function is in progress, defrosting will be activated at the end of the function.

4.7 Manual Activation of Defrosting

- make sure that the keyboard is not locked and that no other operation is in progress; ensure that the Overcooling function is not in progress
- press and hold down the **DEFROSTING** key for 4 sec.

For EVX203, EVX204, EVX214, EVX205 and EVX215:

If the evaporator probe function is that of the defrosting probe (parameter F3=1) and upon activation of defrosting, the temperature of the evaporator is higher than that established with parameter dJ, the defrosting function will not be activated.

4.8 Operation for low or high percentage of relative humidity (but EVX201 and provided parameter F0 is set to 1)

During operation for low percentage of relative humidity, the evaporator ventilator will be switched on. If the compressor is switched off (parameter F4 determines the amount of time it is switched off while parameter F5 determines the amount of time it is switched on).

During operation for a high percentage of relative humidity the evaporator fan is always on.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

4.8.1 Manual activation of operation for low or high percentage of relative humidity (but EVX201 and provided parameter F0 is set to 5)

- make sure that the keyboard is not locked and that no other procedures are in progress
- press the **SET** and the **UP** keys for 4 sec. the display will show '**rhL**' (operation for low percentage of relative humidity) or '**rhH**' (operation for high percentage of relative humidity) for 10 sec.

To restore the normal display before the operation is complete:

- press a key

Activation of the operation for a low or high percentage of relative humidity can be done using parameter H5.

If parameter F0 is not set to 5, pressing the **SET** and the **UP** keys will cause the display of the following message '- - - -' for 1 sec.

4.8.2 Display of type of operation in progress (for low or high percentage of relative humidity, but EVX201 and provided that parameter F0 is set to 5)

- make sure that no other procedure is in progress
- press and release the **SET** and the **UP** keys. the display will show '**rhL**' (operation for low percentage of relative humidity) or '**rhH**' (operation for high percentage of relative humidity) for 10 sec.

To restore the normal display before the operation is complete:

- press a key

If parameter F0 is not set to 5, pressing the **SET** and **UP** keys will cause:

- the display of the message '- - - -' for 1 sec if the keyboard is not locked
- display of the label '**Loc**' for 1 sec if the keyboard is locked

4.9 Manual switching on/off of the cell light (EVX204, EVX214, EVX205 and EVX215 only and provided that parameter u1 and/or parameter u11 is set to 0)

- make sure that no other procedure is in progress
- press and release the **AUXILIARY** key. the LED light will switch on/off.

Using the door microswitch it is also possible to switch on/off the cell light by remote; see also parameter u2.

If parameter u1 is set at 0 (i.e. the utility managed by the fourth output is the cabinet light) and parameter u11 is set at 2 (i.e. the utility managed by the fifth output is the auxiliary output), holding the **AUXILIARY** key down for 2 s will cause the switch-on/off of the multipurpose LED and of the auxiliary output.

4.10 Switching on the demisting resistors (EVX204, EVX214, EVX205 and EVX215 only and provided that parameter u1 and/or parameter u11 is set to 1)

- ensure that the instrument is switched on and that no other procedure is in progress
- press the **AUXILIARY** key for 2 sec. the multifunction LED will light up and the resistors will be switched on, both for the amount of time established with parameter u9.

Manually switching off the demisting resistors is not permitted (that is, before the time established with parameter u9 expires).

4.11 Manually switch on/off of the Auxiliary output (EVX204, EVX214, EVX205 and EVX215 only and provided parameter u1 and/or parameter u11 is set to 2)

- ensure that the keyboard is not locked and that no other procedure is in progress
- press and release the **AUXILIARY** key.

Using the multifunction input it is also possible to remotely switch on/off the auxiliary output.

If parameter u1 is set at 2 (i.e. the utility managed by the fourth output is the auxiliary output) and parameter u11 is set at 0 (i.e. the utility managed by the fifth output is the cabinet light), holding the **AUXILIARY** key down for 2 s will cause the switch-on/off of the cabinet light LED and of the cabinet light.

If the auxiliary output has been switched on manually, then it can also be switched off manually similarly. If the auxiliary output has been remotely switched on, then it can only be switched off in the same manner; see also parameter u2.

4.12 Energy Saving (but EVX201)

During function Energy Saving the working setpoint is increased of the temperature you have set with parameter r4 and the evaporator fan is turned on cyclically, on condition that parameter F0 has value 1 or 2 (parameter F13 sets the time the fan remains turned off and parameter F14 the time it remains turned on).

Once the time you have set with parameter H10 has passed (without activations of the door switch digital input and on condition that the cabinet temperature has reached the working setpoint) function Energy Saving is activated automatically (as long as the input will be activated).

4.12.1 Activation/deactivation of function Energy Saving with effect on the compressor only (EVX204, EVX214, EVX205 and EVX215)

Through the multipurpose input it is possible to activate/deactivate function Energy Saving at a distance.

Function Energy Saving can be activated in real time too, to the time you have set with parameter HE1; in this case the duration of the function can be set through parameter HE2.

4.13 Locking/unlocking the keyboard

To lock the keyboard:

- make sure that no other procedure is in progress
- press and hold down the **DOWN** and **ON/STAND-BY** keys for 1 sec. the display will show the message '**LoC**' for 1 sec.

If the keyboard is locked, the following are not permitted:

- manual switch on/off of the instrument
- display of evaporator temperature (via the procedure explained in paragraph 4.4)
- display of the condenser temperature (via the procedure indicated in paragraph 4.5)
- activation/deactivation of Overcooling function
- manual activation of defrosting
- activation of operation for low of high percentage of relative humidity and learning the kind of operation
- manual switch on/off of the auxiliary output
- see information regarding the HACCP alarms
- cancellation of HACCP alarm log
- changing the date and time
- changing the working setpoint (with the procedure described in 5.2)
- display of compressor operation hours
- cancellation of compressor operation hours

The operations cause the display of the label '**Loc**' per 1 sec.

To unlock the keyboard:

- press and hold down the **DOWN** and **ON/STAND-BY** keys for 1 sec. the display will show the message '**UnL**' for 1 sec.

4.13 Silencing the Buzzer

- ensure that no other procedure in in progress
- press a key (the first pressing of the key will not cause the effect associated with that key).

For EVX204, EVX214, EVX205 and EVX215:

If parameter u1 and/or parameter u11 is set to 3 and parameter u9 is set to 1, pressing the key will also deactivate the alarm output.

If parameter u9 is set to 0, the buzzer will not be activated.

5 SETTINGS

5.1 Setting the day and real time (EVX214 and EVX215 only)

- ensure that the keyboard is not locked and that no other procedures are in progress
- press and hold down the **DOWN** key for 1 sec. the display will show the first label available
- press and release the **UP** or **DOWN** key to select '**rtc**'

To change the year:

- press and release the **SET** key. the display will show '**yy**' followed by the last two numbers in the year and the clock LED will flash
- press and release the **UP** or **DOWN** key within 15 sec.

To change the month:

- press and release the **SET** key while changing the year. the display will show '**mn**' followed by the two numbers of the month
- press and release the **UP** or **DOWN** key within 15 sec.

To change the day of the month:

- press and release the **SET** key while changing the month. the display will show '**dd**' followed by the two numbers of the day
- press and release the **UP** or **DOWN** key within 15 sec.

To change the hour:

- press and release the **SET** key while changing the day of the month. the display will show '**hh**' followed by the two numbers of the hour
- press and release the **UP** or **DOWN** key within 15 sec.

The hour is displayed using the 24 hour system.

To change the minutes:

- press and release the **SET** key while changing the hour. the display will show '**mn**' followed by the two minute numbers
- press and release the **UP** and **DOWN** keys within 15 sec.
- press and release the **SET** key or do not operate for 15 sec. the clock LED will switch off.

To exit the procedure:

- press and release the **UP** or **DOWN** key until the display shows the cell temperature and then do not operate for 60 sec.

Alternatively:

- press and release the **ON/STAND-BY** key.

5.2 Setting the working setpoint

- ensure that the keyboard is not locked and that no other procedure is in progress
- press and release the **SET** key. the compressor LED will flash
- press and release the **UP** or **DOWN** key within 15 sec. see also parameters r1, r2 and r3
- press and release the **SET** key or do not operate for 15 sec. the compressor LED will switch off and then the instrument will exit the procedure.

To exit the procedure before the operation is complete:

- do not operate for 15 sec (any changes will be saved).

The working setpoint can also be set via parameter SP.

5.3 Setting the configuration parameters

To begin the procedure:

- ensure that no other procedure is in progress
- hold down the **UP** and **DOWN** keys for 4 sec. the display will show '**PA**'
- press and release the **SET** key
- press and release the **UP** or **DOWN** key within 15 sec to set '**-19**'
- press and release the **SET** key or do not operate for 15 sec.
- hold down the **UP** and **DOWN** keys for 4 sec. the display will show '**SP**'

To select a parameter:

- press and release the **UP** or **DOWN** key

To change a parameter:

- press and release the **SET** key
- press and release the **UP** or **DOWN** key within 15 sec.
- press and release the **SET** key or do not operate for 15 sec.

To exit the procedure:

- hold down the **UP** and **DOWN** keys for 4 sec and do not operate for 60 sec (any changes will be saved).

After changing the parameters, suspend power supply flow to the instrument.

5.4 Restoring the Manufacturer's Settings

To begin the procedure:

- make sure that no other procedure is in progress
- hold down the **UP** and **DOWN** key for 4 sec. the display will show '**PA**'
- press and release the **SET** key
- press and release the **UP** or **DOWN** key within 15 sec to set '**149**'
- press and release the **SET** key or do not operate for 15 sec.
- hold down the **UP** and **DOWN** keys for 4 sec. the display will show '**dEF**'
- press and release the **SET** key
- press and release the **UP** or **DOWN** key within 15 sec to set '**1**'
- press and release the **SET** key or do not operate for 15 sec. the display will show '**dEF**' flashing for 4 sec, after which the instrument will exit the procedure.
- suspend the power supply to the instrument.

To exit the procedure before the operation is complete:

- hold down the **UP** and **DOWN** keys for 4 sec during the procedure (that is, before setting '**1**'. the settings will not be restored).

Make sure that the manufacturer's settings are appropriate (see chapter 12).

6 HACCP FUNCTION

6.1 Preliminary notes

EVX201, EVX205, EVX204, EVX205 and EVX215:

The instrument is able to store up to 3 HACCP alarms.

The instrument provides the following information:

- the critical value
- the alarm duration (from 1 min to 99 hours and 59 min, partial if the alarm is in progress).

CODE	ALARM TYPE (CRITICAL VALUE)
AL	minimum temperature alarm (the minimum cell temperature during any alarm of this type)
AH	maximum temperature alarm (the maximum cell temperature during any alarm of this type)
id	door microswitch input alarm (the maximum cell temperature during any alarm of this type; see also parameter i4)

Important Notes:

- **the codes are displayed in the order shown in the table**
- **the instrument stores the minimum and maximum temperature alarms provided the temperature associated with the alarm is that of the cell (parameter A0 = 0)**
- **the instrument updates the information regarding the the alarm provided the critical value of the new alarm is more critical than that stored alarm or provided the information has already been displayed.**
- **if the instrument is switched off, no alarms will be stored.**

When the problem that caused the alarm disappears, the display is restored to normal operation.

The HACCP LED provides information regarding the HACCP alarm storage status; see paragraph 6.1.

For EVX214 and EVX215:

The instrument is able to store up to 9 HACCP alarms, after which the most recent alarm will substitute the oldest.

The instrument provides the following information:

- critical value
- the date and time the alarm was signaled
- the duration of the alarm (from 1 min to 99 hours and 59 min, partial if the alarm is in progress).

CODE	ALARM TYPE (CRITICAL VALUE)
AL	minimum temperature alarm (the minimum temperature of the cell during the alarm)
AH	maximum temperature alarm (the maximum temperature of the cell during the alarm)
id	door microswitch input alarm (the maximum temperature of the cell during the alarm); see also parameter i4
PF	power supply interruption alarm (cell temperature when power is restored); see also parameters A10 and A12

Notes:

- **the instrument stores the minimum and maximum temperature alarm provided the temperature associated with the alarm is that of the cell (parameter A0 = 0)**
- **to avoid repeatedly storing alarms due to interruptions in the power supply, disconnect the power when the instrument is switched off**
- **if the duration of the power supply interruption alarm is long enough to cause a clock error (code "rtc"), the instrument will not provide any information about the alarm duration**
- **if the instrument is switched off no alarms will be stored**

When the problem that caused the alarm disappears, the display is restored to normal operation, with the exception of the power supply interruption alarm (code '**PF**') which requires manual reinitiation of the normal display.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

To manually restore the normal display:
• press a key.
If parameter u1 and/or parameter u11 is set to 3, pressing the key will deactivate the alarm output.
The HACCP LED provides information regarding the storage status of the alarms, see paragraph 8.1.

6.2 Display of HACCP alarm information

For EVK201, EVK203, EVK204, EVK205 and EVK215:
To start the procedure:
• ensure that the keyboard is not locked and that no other procedure is in progress
• hold down the **DOWN** key for 1 sec: the display will show the first label available
• press and release the **UP** or **DOWN** key to select '**LS**'
• press and release the **SET** key: the display will show one of the codes included in the table in paragraph 6.1.
To select an alarm:
• press and release the **UP** or **DOWN** key (to select, for example, '**AH**')
To view the information about the alarm:
• press and release the **SET** key: the HACCP LED will stop flashing and remain permanently on and the display will show the following sequence of information (for example):

INFO	MEANING
8.0	the critical value is 8.0 °C/8 °F
dur	the display is about to show the duration of the alarm
h01	the alarm has been going off for 1 hour (data continues ...)
n15	the alarm lasted for 1 hour and 15 min
AH	the alarm selected

The display shows each message for 1 sec.
To exit the sequence of information:
• press and release the **ON/STAND-BY** key: the display will show the alarm selected (in the example '**AH**')
To exit the procedure:
• exit the sequence of information
• press and release the **UP** or **DOWN** key until the display shows the cell temperature and then do not operate for 60 sec.
Alternatively:
• exit the sequence of information
• press and release the **ON/STAND-BY** key.
If the instrument does not have any alarms stored, the label '**LS**' will not be displayed.

For EVK214 and EVK215:
To start the procedure:
• ensure that the keyboard is not locked and that no other operation is in progress
• hold down the **DOWN** key for 1 sec: the display will show the first label available
• press and release the **UP** or **DOWN** key to select '**LS**'
• press and release the **SET** key: the display will show the most recent alarm code (or rather, one of the codes shown in the table in paragraph 6.1) followed by the number '**1**'; the larger the number is that follows the alarm code, the older the alarm is.
To select an alarm:
• press and release the **UP** or **DOWN** key (to select, for example, '**AH3**')
To see information regarding the alarm:
• press and release the **SET** key: the HACCP LED will stop flashing and will remain permanently on and the display will show the following sequence of information (for example):

INFO	MEANING
8.0	the critical value is 8.0 °C/8 °F
StA	the display is about to show the date and hour in which the alarm was signaled
y09	the alarm was signaled in 2009 (data continues ...)
m03	the alarm was signaled in March (data continues ...)
d26	the alarm was signaled on the 26th of March 2009
h16	the alarm was signaled at 16.00 (other data continues)
n30	the alarm was signaled at 16.30
dur	the display is about to show the alarm duration
h01	the alarm lasted for 1 hour (other data continues)
n15	the alarm lasted 1 hour and 15 min
AH3	the alarm selected

The display will show each message for 1 sec.
To exit the information sequence:
• press and release the **ON/STAND-BY** key: the display will show the selected alarm ('**AH3**' in the example)
To exit the procedure:
• exit the information sequence
• press and release the **UP** or **DOWN** key until the display shows the cell temperature or do not operate for 60 sec.
Alternatively:
• exit the information sequence
• press and release the **ON/STAND-BY** key.
If the instrument does not have any alarms stored, the label '**LS**' will not be displayed.

6.3 Cancelling the HACCP alarm list

• ensure that the keyboard is not locked and that no other operation is in progress
• press and release the **SET** key or do not operate for 15 sec: the display will show a flashing '----' for 4 sec and the HACCP LED will switch off and then the instrument will exit the procedure.
If the instrument does not have any alarms stored, the label '**nLS**' will not be displayed.

7 CALCULATING COMPRESSOR OPERATION HOURS (but EVK201)

7.1 Preliminary notes

The instrument is able to store up to 9,999 hours of compressor operation, after which the number '**9999**' starts flashing.

7.2 Display of Compressor Operation Hours

• make sure that the keyboard is not locked and that no other operation is in progress
• press and hold down the **DOWN** key for 1 sec: the display will show the first available label
• press and release the **UP** or down **DOWN** key to select '**CH**'
• press and release the **SET** key
To exit the procedure:
• press and release the **SET** key or do not operate for 60 sec
• press and release the **UP** or down **DOWN** key until the display shows the cell temperature or do not operate for 60 sec.
Alternatively:
• press and release the **ON/STAND-BY** key.

7.3 Cancelling Compressor Operation Hours

• Make sure that the keyboard is not locked and that no other procedure is in progress
• press and hold down the **DOWN** key for 1 sec: the display will show the first available label
• press and release the **UP** or **DOWN** key to select '**rCH**'
• press and release the **SET** key
• press and release the **UP** or **DOWN** key within 15 sec to set '**149**'
• press and release the **SET** key or do not operate for 15 sec: the display will show a flashing '----' for 4 sec then the instrument will exit the procedure.

8 WARNING LIGHTS AND DIRECTIONS

8.1 Warning lights

LED	MEANING
	compressor LED light *If the LED is on, then the compressor is on* *If the LED is flashing:* • the working setpoint is in the process of being changed (see the procedure described in paragraph 5.2) • compressor protection operation in progress: - *parameters C0, C1, C2* - *parameter c7 (EVK204, EVK214, EVK205 and EVK215 only)*
	Defrost LED *If it is on:* • defrosting is in progress *If it is flashing:* • predripping in progress: - *parameter d16 (but EVK201)* • defrosting required but a compressor protection operation is in progress: - *parameters C0, C1 and C2 (but EVK201)* • dripping in progress: - *parameter d7 (but EVK201)* • heating of coolant liquid in progress: - *parameter d15 (but EVK201)*
	Evaporator fan LED light *If it is on, the evaporator fan is on (but EVK201)* *If it is flashing, the evaporator fan is deactivated* - *parameter F3 (but EVK201)*
	Cell light LED *If it is on, the cell light has been switched on manually (EVK204, EVK214, EVK205 and EVK215 only and provided that parameter u1 and/or parameter u11 is set to 0)* *If it is flashing, the cell light has been switched on by remote:* - *parameter i0 (EVK204, EVK214, EVK205 and EVK215 only and provided that parameter u1 and/or parameter u11 is set to 0)*
	Multifunction LED light *If it is on:* • the demisting resistors are switched on (EVK204, EVK214, EVK205 and EVK215 only and provided that parameter u1 and/or parameter u11 is set to 1) • the auxiliary output has been manually switched on (EVK204, EVK214, EVK205 and EVK215 only and provided that parameter u1 and/or parameter u11 is set to 2) • the door resistors will be switched on (EVK204, EVK214, EVK205 and EVK215 only and provided that parameter u1 and/or parameter u11 is set to 4) • the evaporator valve will be switched on (EVK204, EVK214, EVK205 and EVK215 only and provided that parameter u1 and/or parameter u11 is set to 5) • the condenser fan will be switched on (EVK204, EVK214, EVK205 and EVK215 only and provided that parameter u1 and/or parameter u11 is set to 6) *If it is flashing:* • the auxiliary output has been switched on remotely: - *parameter i5 (EVK204, EVK214, EVK205 and EVK215 only and provided that parameter u1 and/or parameter u11 is set to 2)* • a delay in switching off the condenser fan is in progress: - *parameter F12 (EVK204, EVK214, EVK205 and EVK215 only and provided that parameter u1 and/or parameter u11 is set to 6)*
	Clock LED *If flashing, the day and real time are in the process of being changed (EVK214 and EVK215 only)*
HACCP	HACCP LED *If it is on, all information regarding HACCP alarms has not been displayed* *If it is flashing, the instrument has stored at least one new HACCP alarm* *If it is off, all information regarding the HACCP alarms has been displayed or the list of HACCP alarms has been cancelled*
	Energy Saving LED *If it is on, the Energy Saving function is running (but EVK201)* - *parameters H4, F13, F14, i5, i10, HE1 and HE2*
	maintenance LED *If on, compressor maintenance is required (but EVK201)* - *parameter C10*
	Overcooling LED *If on, the Overcooling function is on progress* - *parameters r5 and r6*
	Alarms LED *If on, an alarm or error is in progress*
°C	Celsius grade LED *If on, the temperatures will be displayed using the Celsius grade unit of measurement* - *parameter /2*
°F	Fahrenheit grade LED *If on, the temperatures will be displayed using the Fahrenheit grade unit of measurement* - *parameter /2*
	on/stand-by LED *If on, the instrument is in stand-by mode*

8.2 Signal Descriptions/Explanations

CODE	MEANING
rhL	operation for a low percentage of relative humidity in progress
rhH	operation for a high percentage of relative humidity in progress
Loc	the keyboard is locked - *see paragraph 4.13* the working setpoint is blocked - *parameter r3*
----	the operation requested is not available

9 ALARMS

9.1 Alarms

CODE	MEANING
AL	Minimum alarm temperature (**HACCP alarm**) Solutions: • check the cell temperature (EVK201 only) • check the temperature associated with the alarm (but EVK201) • refer to: - *parameters A1 and A2 (EVK201 only)* - *see parameters A0, A1 and A2 (but EVK201)* Main consequences: • the instrument will store the alarm (EVK201 only) • *if parameter A2 is set to 0, the instrument will store the alarm (but EVK201)* • the alarm output will be activated (provided that parameter u1 and/or parameter u11 is set to 3)
AH	Maximum temperature alarm (**HACCP alarm**) Solutions: • check the cell temperature • refer to: - *parameters A4 and A5* Main consequences: • the instrument will store the alarm • the alarm output will be activated (provided that parameter u1 and/or parameter u11 is set to 3)
id	Door microswitch input alarm (**HACCP alarm**) Solutions: • verify the cause of the input activation • see parameters i0, i1 and i4 Main consequences: • the effect established with parameter i0 • *if parameter is set to 1, the instrument will store the alarm, provided parameter i2 is not set to -1* • the alarm output will be activated (provided that param-

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

• press a key to restore normal display
Main consequences:
• if the power supply interruption lasts longer than the time established with parameter A10, the instrument will store the alarm
• the alarm output will be activated (provided that parameter u1 and/or parameter u11 is set to 3)

iA Multifunction input alarm (only EVK204, EVK214, EVK205 and EVK215)
Solutions:
• verify the cause of input activation
• parameters i5 and i6 are seen
Main consequences:
• the effect established with parameter i5
• the alarm output will be activated (provided that parameter u1 and/or parameter u11 is set to 3)

iSd Pressure switch alarm (only EVK204, EVK214, EVK205 and EVK215)
Solutions:
• verify the cause of input activation
• parameters i5, i6, i7, i8 and i9 are seen
• switch off and re-start the instrument or suspend the power supply
Main consequences:
• the regulators will switch off
• the alarm output will be activated (provided that parameter u1 and/or parameter u11 is set to 3)

COH Condenser overheated alarm (only EVK204, EVK214, EVK205 and EVK215)
Solutions:
• check the temperature of the condenser
• parameter C6 is seen
Main consequences:
• the alarm output will be activated (provided that parameter u1 and/or parameter u11 is set to 3)
• if parameter u1 and/or parameter u11 is set to 6, the condenser fan will be switched on

CSd Compressor blocked alarm (only EVK204, EVK214, EVK205 and EVK215)
Solutions:
• check the condenser temperature
• parameter C7 seen
• switch off and re-start the instrument. If when the instrument is switched back on, the temperature of the condenser is still higher than that established in parameter C7, disconnect the power supply and clean the condenser
Main consequences:
• the compressor and the evaporator fan will be switched off
• the alarm output will be activated (provided that parameter u1 and/or parameter u11 is set to 3)

dFd Defrosting alarm (switched off because maximum time has been reached (but EVK201)
Solutions:
• verify that the evaporator probe is intact
• see parameters d2, d3 and d11
• press a key to restore normal display
Main consequences:
• the instrument will continue to function normally

When the problem that caused the alarm disappears, the instrument returns to normal function, with the exception of the following alarms:
• the power supply interruption alarm (code "**PF**") which requires the pressing of a key
• pressure switch alarm (code "**iSd**") which requires the switching off of the instrument or the temporary suspension of the power supply
• compressor blocked by condenser temperature alarm (code "**CSd**") which requires the switching off of the instrument or the temporary suspension of the power supply
• Defrosting alarm switched off because maximum time has been reached (code "**dFd**") which requires the pressing of a key

10 ERRORS

10.1 Errors

CODE	MEANING
Pr1	Cell probe error Solutions: • verify that the probe is a type NTC • verify that the probe is intact • verify the instrument-probe connection • check the cell temperature Main consequences: • compressor activity will depend on parameters C4 and C5 • the defroster will not be activated • the alarm output will be activated (provided that parameter u1 and/or parameter u11 is set to 3) • the door heaters will be switched off (EVK204, EVK214, EVK205 and EVK215)
Pr2	Evaporator probe error (but EVK201) Solutions: • the same as the preceding case but with respect to the evaporator probe Main consequences: • if parameter P3 is set to 1, the defrosting period will last for the amout of time set with parameter d4 • if parameter P3 is set to 1 and parameter d8 is set to 2 or to 3, the instrument will operate as if parameter d8 were set to 0 • if parameter F0 is set to 3 or 4, the instrument will operate as if the parameter were set to 2 • the alarm output will be activated (provided that parameter u1 and/or parameter u11 is set to 3)
Pr3	Condenser probe error (EVK204, EVK214, EVK205 and EVK215 only) Solutions: • the same as the preceding case but with respect to the condenser probe Main consequences: • condenser overheated alarm (code "**COH**") will not be activated • compressor blocked by condenser temperature alarm (code "**CSd**") will never be activated • the alarm output will be activated (provided that parameter u1 and/or parameter u11 is set to 3) • if parameter u1 and/or parameter u11 is set to 6, the condenser fan will operate in parallel with the condenser
rtc	Clock error (EVK214 and EVK215 only) Solutions: • re-set the day and real time Main consequences: • if parameter d8 is set to 4, the instrument will operate as if the parameter were set to 0 • the HACCP function will not provide information regarding the date and hour in which the alarm was signaled • the Energy Saving function will not be available in real time • the alarm output will be activated (provided that parameter u1 and/or parameter u11 is set to 3)

When the problem that caused the alarm disappears, the instrument returns to normal operation, with the exception of the clock error (code "**rtc**") which requires that the date and hour be set.

11 TECHNICAL DATA

11.1 Technical data

Case: without cover
Frontal protection grade: IP 00
Connections: Ø 3 mm faston connectors (Ø 2.8 in. power and outputs), screw terminal board (inputs), 6-outlet connector (serial port)
Operating temperature: from 0 to 55 °C (from 32 to 131 °F; 10 ... 90% relative humidity without condensation)
Power: 230 VCA, 50/60 Hz or 115 VCA, 50/60 Hz
Preservation of clock data in the absence of power (EVK214 and EVK215 only): 24 hr fully-charged battery
Battery recharge time (EVK214 and EVK215 only): 2 min without interruption (the battery is recharged by the instrument's power supply)
Alarm buzzers: upon request in EVK201 and EVK203; built-in for EVK204, EVK214, EVK205 and EVK215)
EVK201 measure inputs: 1 (cell probe) for NTC probe
EVK203 measure inputs: 2 (cell probe and evaporator probe) for the NTC probe
EVK204, EVK214, EVK205 and EVK215 measure inputs: 3 (cell probe, evaporator probe and condenser probe) for NTC probe
EVK201 and EVK203 digital inputs: 1 (door microswitch) for normally open (normally closed contact) (free contact, 5 V, 1 mA)
EVK204, EVK214, EVK205 and EVK215 digital inputs: 2 (door microswitch and multifunction) for normally open/normally closed contact (free contact, 5 V, 1 mA)
Measurement field: from -40 to 105 °C (from -40 to 220 °F)
Resolution: 0.1 °C/1 °C/1 °F
EVK201 digital outputs: 1 relay
- **compressor relay:** 16 A res. @ 250 VCA (normally open contact); 30 A res. @ 250 VCA upon request

The maximum load current allowed is 16 A.
EVK203 digital outputs: 3 relays
- **compressor relay:** 16 A res. @ 250 VCA (normally open contact); 30 A res. @ 250 VCA upon request
- **defrosting relay:** 8 A res. @ 250 VCA (exchange contact)
- **evaporator fan relay:** 8 A res. @ 250 VCA (normally open contact)

The maximum load current allowed is 16 A.
EVK204 and EVK214 digital outputs: 4 relays
- **compressor relay:** 30 A res. @ 250 VCA (normally open contact)
- **defrosting relay:** 8 A res. @ 250 VCA (exchange contact)
- **evaporator fan relay:** 8 A res. @ 250 VCA (normally open contact)
- **fourth output relay:** from 8 A res. @ 250 VCA (normally open contact)

The maximum load current allowed is 16 A.
EVK205 and EVK215 digital outputs: 5 relays
- **compressor relay:** 30 A res. @ 250 VCA (normally open contact)
- **defrosting relay:** 8 A res. @ 250 VCA (exchange contact)
- **evaporator fan relay:** 8 A res. @ 250 VCA (normally open contact)
- **fourth output relay:** from 8 A res. @ 250 VCA (normally open contact)
- **fifth output relay:** from 5 A res. @ 250 VCA (normally open contact)

The maximum load current allowed is 16 A.
Serial port: port for communicating with the monitoring system (via serial interface, via TTL, with a MODBUS communications protocol) or via programming key

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Eliwo S.p.A. • Code: 104UZ0E3I14 • page 5/8

12 WORKING SETPOINT AND CONFIGURATION PARAMETERS

12.1 Working setpoint

	MIN	MAX	UM	EVK201	EVK203	EVK204/5/EVK214/5	WORKING SETPOINT
	r1	r2	°C/°F (1)	2.0	2.0	-18.0	-18.0 working setpoint, see also r0

12.2 Configuration parameters

PAR	MIN	MAX	UM	EVK201	EVK203	EVK204/5/EVK214/5	WORKING SETPOINT
SP	r1	r2	°C/°F (1)	2.0	2.0	-18.0	-18.0 working setpoint, see also r0
PAR	MIN	MAX	UM	EVK201	EVK203	EVK204/5/EVK214/5	MEASUREMENT INPUTS
CA1	-25.0	25.0	°C/°F (1)	0.0	0.0	0.0	0.0 offset cell probe
CA2	-25.0	25.0	°C/°F (1)	not avail.	0.0	0.0	0.0 offset evaporator probe
CA3	-25.0	25.0	°C/°F (1)	not avail.	not avail.	0.0	0.0 offset condenser probe
/1	0	1	----	1	1	1	1 Celsius degree decimal point (for use displayed during normal operation) 1 = YES
/2	0	1	----	0	0	0	0 temperature unit of measurement (2) 0 = °C 1 = °F
/3	0	2	----	not avail.	1	1	1 evaporator probe function 0 = probe absent 1 = defrosting probe and probe for evaporator fan thermostatation 2 = probe for evaporator fan thermostatation
/4	0	1	----	not avail.	not avail.	1	1 enabling of condenser probe 1 = YES
/8	0	250	dc	5	5	5	5 delay in display of variations in temperature detected by the probes
PAR	MIN	MAX	UM	EVK201	EVK203	EVK204/5/EVK214/5	MAIN REGULATOR
r0	0.1	15.0	°C/°F (1)	2.0	2.0	2.0	2.0 working setpoint differential
r1	-99.0	r2	°C/°F (1)	-50.0	-50.0	-50.0	-50.0 minimum working setpoint
r2	r1	99.0	°C/°F (1)	50.0	50.0	50.0	50.0 maximum working setpoint
r3	0	1	----	0	0	0	0 locking of working setpoint calibration (using the procedure described in paragraph 5.2) 1 = YES
r4	0.0	99.0	°C/°F (1)	not avail.	not avail.	0.0	0.0 increase in temperature during Energy Saving function, see also r5, r10, HE1 and HE2
r5	0.0	99.0	°C/°F (1)	0.0	0.0	0.0	0.0 decrease in temperature during Overcooling function, see also r6
r6	0	240	min	30	30	30	30 duration of Overcooling function, see also r5
r7	0.0	99.0	°C/°F (1)	not avail.	10.0	10.0	10.0 minimum difference "cell temperature - working setpoint" (when the instrument switches on) such as to provide the exclusion of the consequent value of the evaporator temperature among the ones used for the calculation of the relative average (for the defrost actuation only if dB = 3), also look at d17 (3)
PAR	MIN	MAX	UM	EVK201	EVK203	EVK204/5/EVK214/5	COMPRESSOR PROTECTION SYSTEM
C0	0	240	min	0	0	0	0 delay in switching on of compressor after the instrument switches on (3), minimum time between two consecutive compressor start-ups, also delay in compressor start-up after conclusion of cell probe error (code: **Pr1**) (4) (5)
C1	0	240	min	5	5	5	5
C2	0	240	min	3	3	3	3 minimum duration of compressor switch off time (4)
C3	0	240	sec	0	0	0	0 minimum duration of compressor switch on time
C4	0	240	min	10	10	10	10 duration of compressor switch off during cell probe error (code: **Pr1**), see also C5
C5	0	240	min	10	10	10	10 duration of compressor switch on during cell probe error (code: **Pr1**), see also C4
C6	0.0	199.0	°C/°F (1)	not avail.	not avail.	80.0	80.0 condenser temperature is higher than that at which the condenser overheating alarm is activated (code: **COH**) (6)
C7	0.0	199.0	°C/°F (1)	not avail.	not avail.	90.0	90.0 condenser temperature is higher than the limit at which the compressor blocked alarm is activated (code: **CSd**)
C8	0	15	min	not avail.	not avail.	1	1 compressor alarm delay locked (code: **CSd**) (7)
C10	0	9.999	hr	not avail.	0	0	0 number of operating hours is higher than the limit at which the need for maintenance is signaled 0 = function absent
PAR	MIN	MAX	UM	EVK201	EVK203	EVK204/5/EVK214/5	DEFROSTING
d0	0	99	hr	8	8	8	8 if dB = 0, 1 or 2, defrosting interval (8) 0 = interval defrosting will never be activated if dB = 3, maximum defrost interval
d1	0	2	----	not avail.	0	0	0 type of defrosting 0 = ELECTRIC - during defrosting the compressor will remain off and the defrosting output will be activated, evaporator fan activity will depend on parameter F2 1 = BY HOT GAS - during defrosting the compressor will be switched on and the defrosting output will be activated, evaporator fan activity will depend on parameter F2 2 = VIA STOPPING OF COMPRESSOR - during defrosting the compressor will remain switched off and the defrosting output will remain deactivated, evaporator fan activity will depend on parameter F2
d2	-99.0	99.0	°C/°F (1)	not avail.	2.0	2.0	2.0 temperature at end of defrosting (only if F3 = 1), see also d3
d3	0	99	min	30	30	30	30 if F3 = 0 or 2, defrosting duration if F3 = 1, maximum defrosting duration, see also d2 0 = defrosting will not be activated
d4	0	1	----	0	0	0	0 defrosting when instrument is switched on (only if dB = 0, 1, 2 or 3) (3) 1 = YES
d5	0	99	min	0	0	0	0 if d4 = 0, minimum time between switching on of instrument and actuation of defrosting, see also f5 (3) if d4 = 1, delay in actuation of defrosting after instrument is switched on , see also f5 (3)
d6	0	1	----	1	1	1	1 temperature displayed during defrosting 0 = cell temperature 1 = if at the time of defrosting actuation, the cell temperature is lower than the "working setpoint + r0", at most "working setpoint + r0"; if at the time of defrosting actuation, the cell temperature is higher than the "working setpoint + r0", at most the cell temperature when defrosting is activated
d7	0	15	min	not avail.	2	2	2 dripping duration (during dripping the compressor will remain switched off and the defrosting output will remain deactivated, if d16 = 0, evaporator fan activity will depend on parameter F2; if d16 ≠ 0, the evaporator fan will remain switched off)
d8	0	4	----	0	0	0	0 defrosting activation methods 0 = AT INTERVALS - defrosting will be activated once the instrument has altogether been running for time d0 1 = AT INTERVALS - defrosting will be activated once the compressor has altogether been switched on for time d0 2 = AT INTERVALS - defrosting will be activated once the evaporator temperature has altogether been below temperature d9 for time d0 (visible in EVK203, EVK204, EVK214, EVK205 and EVK215 only) (10) 3 = ADAPTABLE - defrosting will be activated when one of the following conditions is present (visible in EVK203, EVK204, EVK214, EVK205 and EVK215 only, also look at d0) (10): - condition 1: the evaporator temperature will be below temperature d22 and the compressor will altogether be switched on for time d18 - condition 2: the evaporator temperature will fall below temperature d19 4 = IN REAL TIME - defrosting will be activated at the times established in parameters H01 ... H06 (visible in EVK214 and EVK215 only)
d9	-99.0	99.0	°C/°F (1)	not avail.	0.0	0.0	0.0 evaporator temperature is higher than that at which the defrost interval counter is suspended (only if dB = 2)
d11	0	1	----	not avail.	0	0	0 defrosting alarm switches off once maximum time limit has been reached (code: **dPd**, only if F3 = 1 and in absence of an evaporator probe (code: **Pr2**) 1 = YES
d15	0	99	min	not avail.	0	0	0 minimum time that the compressor must be switched on before defrosting can be activated (only if d1 = 1) (11)
d16	0	99	min	not avail.	0	0	0 predripping duration (during predripping the compressor will remain switched off, the defrosting output will be activated and the evaporator fan will remain switched off)

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

d17	1	10	-----	not avail.	1	1	1	number of evaporator temperature values used for the calculation of the relative average (for the defrost activation; only if dB = 3); also look at r7, c11 and c12
d18	0	3.000	min	not avail.	40	40	40	defrosting interval (only if dB = 3 and for condition 1) 0 = defrosting for condition 1 will never be activated
d19	0.0	40.0	°C/°F (1)	not avail.	3.0	3.0	3.0	evaporator temperature above which the defrost is activated (relative to the evaporator temperatures average, or "evaporator temperatures average - d19") (only if dB = 3 and for condition 2); also look at d17
d20	0	500	min	not avail.	180	180	180	minimum consecutive time the compressor must be switched on such as to provoke the defrost activation 0 = the defrost will never be activated because the compressor has been switched on
d21	0	500	min	not avail.	200	200	200	minimum consecutive time the compressor must be switched on after the instrument switches on (on condition that the difference "cell temperature - working setpoint" is higher temperature r7) and after function Overcooling is activated such as to provoke the defrost activation 0 = the defrost will never be activated because the compressor has been switched on
d22	0.0	10.0	°C/°F (1)	not avail.	2.0	2.0	2.0	evaporator temperature above which the defrosting interval is suspended (relative to the evaporator temperatures average, or "evaporator temperatures average + d22") (only if dB = 3 and for condition 1); also look at d17
d23	0.0	10.0	°C/°F (1)	not avail.	1.0	1.0	1.0	evaporator temperatures average increase during function Energy Saving (for defrost activation, only if dB = 3); also look at d17
PAR.	MIN.	MAX.	UM	EVK201	EVK203	EVK204/5	EVK214/5	TEMPERATURE ALARMS
A0	0	1	-----	not avail.	0	0	0	temperature associated with the minimum temperature alarm (code "**AL**") 0 = cell temperature 1 = evaporator temperature (12)
A1	-99.0	99.0	°C/°F (1)	-10.0	-10.0	-10.0	-10.0	temperature below that at which the minimum temperature alarm is activated (code "**AL**"); see also A0, A2 and A11
A2	0	2	-----	1	1	1	1	type of minimum temperature alarm (code "**AL**") 0 = alarm absent 1 = relative to working setpoint (that is "working setpoint - A1"; consider A1 without sign) 2 = absolute (that is A1)
A4	-99.0	99.0	°C/°F (1)	10.0	10.0	10.0	10.0	temperature higher than that at which the maximum temperature alarm is activated (code "**AH**"); see also A5 and A11
A5	0	2	-----	1	1	1	1	type of maximum temperature alarm (code "**AH**") 0 = alarm absent 1 = relative to working setpoint (that is "working setpoint + A4"; consider A2 without sign) 2 = absolute (that is A4)
A6	0	240	min	120	120	120	120	delay in maximum temperature alarm (code "**AH**") after the instrument is switched on (3)
A7	0	240	min	15	15	15	15	temperature alarm delay (code "**AL**" and code "**AH**")
A8	0	240	min	15	15	15	15	delay in maximum temperature alarm (code "**AH**") following the conclusion of defrosting (in EVK201 only) and following the conclusion of evaporator fan (in EVK203, EVK204, EVK214, EVK205 and EVK215 only) (13)
A9	0	240	min	15	15	15	15	delay in maximum temperature alarm (code "**AH**") following the deactivation of the door microswitch input (14)
A10	0	240	min	not avail.	not avail.	not avail.	1	duration of interruption in the power supply that occurs when the instrument has been running for long enough to cause the storage of the power interruption alarm when the power supply is restored. (code "**PF**") (15)
A11	0.1	15.0	°C/°F (1)	2.0	2.0	2.0	2.0	differential of parameters A1 and A4
A12	0	2	-----	not avail.	not avail.	not avail.	1	kind of signal for power interruption alarm (code "**PF**"); also look at A10 0 = the alarm will not be signalled 1 = the display will show the code "**PF**" flashing and the buzzer will be activated 2 = the display will show the code "**PF**" flashing and the buzzer will be activated (this last on condition that the power interruption duration is higher than time A10)
PAR.	MIN.	MAX.	UM	EVK201	EVK203	EVK204/5	EVK214/5	EVAPORATOR FAN
F0	0	5	-----	not avail.	1	1	1	evaporator fan activity during normal operation 0 = switched off 1 = switched on; see also F13, F14 and r10 2 = in parallel with the compressor; see also F9, F13, F14 and r10 3 = dependent on F1 (16) 4 = switched off if the compressor is switched off, dependent on F1 if the compressor is switched on; see also F9 (16) 5 = dependent on F6; see also F9
F1	-99.0	99.0	°C/°F (1)	not avail.	-1.0	-1.0	-1.0	evaporator temperature above the time at which the evaporator fan is switched off (only if F0 = 3 or 4); see also F8
F2	0	2	-----	not avail.	0	0	0	evaporator fan activity during defrosting and dripping 0 = switched off 1 = switched on (setting parameter d7 to 0 is recommended) 2 = dependent on F0
F3	0	15	min	not avail.	2	2	2	maximum duration of evaporator fan deactivation; see also F7 (during evaporator fan deactivation the compressor can be switched on, the defrosting output will remain deactivated and the evaporator fan will remain switched off)
F4	0	240	sec	not avail.	60	60	60	time duration that evaporator fan is switched off during operation for a low percentage of relative humidity when the compressor is switched off; see also F5 (only if F0 = 5)
F5	0	240	sec	not avail.	10	10	10	time duration that evaporator fan is switched on during operation for a low percentage of relative humidity when the compressor is switched off; see also F4 (only if F0 = 5)
F6	0	1	-----	not avail.	0	0	0	operation for low or high percentage of relative humidity (only if F0 = 5) (17) 0 = LOW RELATIVE HUMIDITY - the evaporator fan will operate in parallel with the compressor; see also F4 and F5 1 = HIGH RELATIVE HUMIDITY - the evaporator fan will always be switched on
F7	-99.0	99.0	°C/°F (1)	not avail.	5.0	5.0	5.0	evaporator temperature below limit at which the evaporator fan is deactivated (relative to working setpoint, that is "working setpoint + F7"); see also F3
F8	0.1	15.0	°C/°F (1)	not avail.	2.0	2.0	2.0	parameter F1 differential
F9	0	240	sec	not avail.	not avail.	0	0	delay in the switching off of evaporator fan following the switching off of the compressor (only if F0 = 2, 4 and 5)
F11	0.0	99.0	°C/°F (1)	not avail.	not avail.	15.0	15.0	condenser temperature above that at which the condenser fan is switched on (F11 + 2.0 °C/4 °F; only if u1 and/or u11 = 6 and provided the compressor is switched on); see also F12 (18)
F12	0	240	sec	not avail.	not avail.	30	30	delay in switching off of the condenser fan following the switching off of the condenser (only if u1 and/or u11 = 6); see also F11
F13	0	240	min	not avail.	5	5	5	time the evaporator fan remains turned off during function Energy Saving; see also F14 and r10 (only if F0 = 1 or 2)
F14	0	240	min	not avail.	5	5	5	time the evaporator fan remains turned on during function Energy Saving; see also F13 and r10 (only if F0 = 1 or 2)
PAR.	MIN.	MAX.	UM	EVK201	EVK203	EVK204/5	EVK214/5	DIGITAL INPUTS
i2	0	5	-----	1	2	3	3	effect caused by the activation of the door microswitch input; see also i4 0 = no effect 1 = the compressor and evaporator fan (evaporator fan in EVK203, EVK204, EVK214, EVK205 and EVK215 only) will be switched off (at most for time c3 or until the input is deactivated) (19) 2 = the evaporator fan will be switched off (at most for time c3 or until the input is deactivated) (visible in EVK203, EVK204, EVK214, EVK205 and EVK215 only) 3 = the cell light will be switched on (only if u1 and/or u11 = 0, until the input is deactivated) (only visible in EVK204, EVK214, EVK205 and EVK215) 4 = the compressor and evaporator fan will be switched off (at most for time c3 or until the input is deactivated) and the cell light will be switched on (only if u1 and/or u11 = 0, until the input is deactivated) (only visible in EVK204, EVK214, EVK205 and EVK215) (19) 5 = the evaporator fan will be switched off (at most until time c3 or until the input has been deactivated) and the cell light will be switched on (only if u1 and/or u11 = 0, until the input is deactivated) (only visible in EVK204, EVK214, EVK205 and EVK215)
i3	0	1	-----	0	0	0	0	type of door microswitch input contact

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Evco S.p.A. • Cod: 1IX620E314 • page 7/8

c3	1	120	min	15	15	15	15	maximum duration of the effect caused by activation of the door microswitch on the compressor and the evaporator fan (the evaporator fan in EVX203, EVX204, EVX214, EVX205 and EVX215 only) -1 = the effect will last until the input is deactivated
c4	0	1	----	0	0	0	0	storage of door microswitch input alarm (code: **bd**) (20) 1 = YES
c5	0	6	----	not avail.	not avail.	2	2	effect caused by the activation of the multifunction input 0 = no effect 1 = SYNCHRONISATION OF DEFROSTING PERIODS - once time c9 has passed defrosting will be activated 2 = ACTIVATION OF ENERGY SAVING FUNCTION - the Energy Saving function will be activated (until the input is deactived), provided the Overcooling function is running; see also r4 3 = ACTIVATION OF MULTIFUNCTION INPUT ALARM - once time c7 has passed the display will show the flashing code '**iA**' and the buzzer will be activated (until the input is deactivated) 4 = ACTIVATION OF THE PRESSURE SWITCH ALARM - the compressor will be switched off, if u1 and/or u11 = 6 the condenser fan will be switched on, the display will show the flashing code '**iA**' and the buzzer will be activated (until the input is deactivated); when the input has been activated the number of times established with parameter i8 the regulation will be switched off, if u1 and/or u11 = 6 the condenser fan will be switched on, the display will show the flashing code '**iSd**' and the buzzer will be activated (until the input is deactivated and the instrument is switched off and re-started or until the power supply is interrupted); see also c7 and i8 5 = SWITCHING ON THE AUXILIARY OUTPUT - the auxiliary output will be switched on (only if u1 and/or u11 = 2, until the input is deactivated) 6 = SWITCHING OFF THE INSTRUMENT - the instrument will be switched off (until the input is deactivated)
i6	0	1	----	not avail.	not avail.	0	0	type of multifunction input contact 0 = normally open (active input with closed contact) 1 = normally closed (active input with open contact)
i7	0	120	min	not avail.	not avail.	0	0	if i5 = 3, multifunction input alarm delay (code: **iA**) if i5 = 6, delay in compressor switching on after the deactivation of the multifunction input (21)
i8	0	15	----	not avail.	not avail.	0	0	number of multifunction input alarms (code: **iA**) such to cause a pressure switch alarm (code: **iSd**) (if i5 = 6) 0 = alarm absent
i9	1	999	min	not avail.	not avail.	240	240	time that must pass in absence of multifunction output alarms (code: **iA**) so that the alarm counter is reset (only if i5 = 6)
i10	0	999	min	not avail.	0	0	0	time without activations of the door switch input (on condition that the cabinet temperature has reached the working setpoint) in order that function Energy Saving is activated automatically (it has effect on the evaporator fan only if F0 = 1 or 2) 0 = the function will never automatically be activated
i11	0	240	s	not avail.	15	15	15	minimum time the door switch input must be activated such as to provoke the exclusion of the consequent value of the evaporator temperature among the ones used for the calculation of the relative average (for the defrost activation; only if dB = 3); also look at d17
i12	0	240	s	not avail.	60	60	60	minimum time the door switch input must be activated altogether such as to provoke the exclusion of the consequent value of the evaporator temperature among the ones used for the calculation of the relative average (for the defrost activation; only if dB = 3); also look at d17
i13	0	240	----	not avail.	180	180	180	number of door switch input activations such as to provoke the defrost activation 0 = the defrost will never be activated because of the door switch input activation
i14	0	240	min	not avail.	30	30	30	minimum duration of the door switch input activation such as to provoke the defrost activation 0 = the defrost will never be activated because of the door switch input activation
PAR	MIN.	MAX.	UM	EVX201	EVX203	EVX204/5	EVX214/5	DIGITAL OUTPUTS
u1	0	6	----	not avail.	not avail.	0	0	operation controlled by fourth output (22) 0 = CELL LIGHT - in this case the **AUXILIARY** key and parameters i0 and u2 will be activated 1 = DEMISTER RESISTORS - in this case the **AUXILIARY** key and parameter u5 will be activated 2 = AUXILIARY OUTPUT - in this case the **AUXILIARY** key and parameters i5 and u2 will be activated 3 = ALARM OUTPUTS - in this case parameter u4 will be activated 4 = DOOR RESISTORS - in this case parameter u5 will be activated 5 = EVAPORATOR VALVE - in this case parameters u7 and u8 will be activated 6 = CONDENSER FAN - in this case parameters P4, F11 and F12 will be activated
u2	0	1	----	not avail.	not avail.	0	0	enabling of manual switch on/switch off of the cell light or the auxiliary output when the instrument is switched off (only if u1 and/or u11 = 0 or 2) (23) 1 = YES
u4	0	1	----	not avail.	not avail.	1	1	enabling of alarm output deactivation with the silencing of the buzzer (only if u1 and/or u11 = 3) 1 = YES
u5	-99.0	99.0	°C/°F (1)	not avail.	not avail.	1.0	-1.0	cell temperature below that at which the door resistors are switched on (u5 - 2.0 °C/4 °F, only if u1 and/or u11 = 4) (6)
u6	1	120	min	not avail.	not avail.	5	5	operating time of demister resistors (only if u1 and/or u11 = 1)
u7	0.0	99.0	°C/°F (1)	not avail.	not avail.	2.0	2.0	cell temperature below that at which the evaporator valve is deactivated (relating to the working setpoint, that is "working setpoint + u7") (only if u1 and/or u11 = 5) (6)
u8	0	1	----	not avail.	not avail.	0	0	type of evaporator valve contact (only if u1 and/or u11 = 5) 0 = normally open (valve active with contact closed) 1 = normally closed (valve active with contact open)
u9	0	1	----	1	1	1	1	enabling of buzzer 1 = YES
u11	0	6	----	not avail.	not avail.	3	3	operation controlled by fifth output (22) 0 = CELL LIGHT - in this case the **AUXILIARY** key and parameters i0 and u2 will be activated 1 = DEMISTER RESISTORS - in this case the **AUXILIARY** key and parameter u5 will be activated 2 = AUXILIARY OUTPUT - in this case the **AUXILIARY** key and parameters i5 and u2 will be activated 3 = ALARM OUTPUTS - in this case parameter u4 will be activated 4 = DOOR RESISTORS - in this case parameter u5 will be activated 5 = EVAPORATOR VALVE - in this case parameters u7 and u8 will be activated 6 = CONDENSER FAN - in this case parameters P4, F11 and F12 will be activated
PAR	MIN.	MAX.	UM	EVX201	EVX203	EVX204/5	EVX214/5	ENERGY SAVING IN REAL TIME
HE1	00.00	23.59	hr.min	not avail.	not avail.	00.00	00.00	time of activation of the Energy Saving in real time function; see also r4 and HE2
HE2	00.00	23.59	hr.min	not avail.	not avail.	00.00	00.00	duration of the Energy Saving in real time function; see also r4 and HE1 00.00= the Energy Saving in real time function will not be activated
PAR	MIN.	MAX.	UM	EVX201	EVX203	EVX204/5	EVX214/5	DEFROSTING IN REAL TIME
Hd1	00.00	23.59	hr.min	not avail.	not avail.	--.--	--.--	time of activation of firs defrosting period in real time (only if dB = 4) --.-- = the first defrosting in real time will not be activated
Hd2	00.00	23.59	hr.min	not avail.	not avail.	--.--	--.--	time of activation of second defrosting period in real time (only if dB = 4) --.-- = the second defrosting in real time will not be activated
Hd3	00.00	23.59	hr.min	not avail.	not avail.	--.--	--.--	time of activation of third defrosting period in real time (only if dB = 4) --.-- = the third defrosting in real time will not be activated
Hd4	00.00	23.59	hr.min	not avail.	not avail.	--.--	--.--	time of activation of fourth defrosting period in real time (only if dB = 4) --.-- = the fourth defrosting in real time will not be activated
Hd5	00.00	23.59	hr.min	not avail.	not avail.	--.--	--.--	time of activation of fifth defrosting period in real time (only if dB = 4) --.-- = the fifth defrosting in real time will not be activated
Hd6	00.00	23.59	hr.min	not avail.	not avail.	--.--	--.--	time of activation of sixth defrosting period in real time (only if dB = 4) --.-- = the sixth defrosting in real time will not be activated
PAR	MIN.	MAX.	UM	EVX201	EVX203	EVX204/5	EVX214/5	SERIAL NETWORK (MODBUS)
LA	1	247	----	247	247	247	247	instrument address
Lb	0	3	----	2	2	2	2	baud rate (0 = 2,400 baud, 1 = 4,800 baud, 2 = 9,600 baud, 3 = 19,200 baud)
LP	0	2	----	2	2	2	2	parity (0 = none, 1 = odd, 2 = even)

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

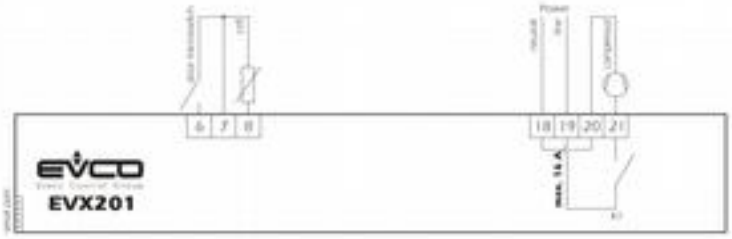
(1) the unit of measurement depends on P2
(2) Properly set the parameters corresponding to the regulation after modifying parameter P2
(3) the parameter has effect even after an interruption in the power supply that occurs while the instrument is switched on
(4) the time established with the parameter is counted even when the instrument is switched off
(5) if parameter C1 is set to 0, the delay after the end of the cell probe error will be 2 min
(6) the parameter differential is 2.0 °C/4 °F
(7) if when the instrument is switched on, the condenser temperature is already above that established in parameter C7, then parameter C8 will not have effect
(8) the instrument stores the defroster interval count every 30 min; the modification of parameter d0 takes effect following the end of the preceding interval or following the activation of manual defrosting
(9) the display returns to normal operation when, at the end of defrosting (EVX201 only) or at the end of evaporator fan deactivation (in EVX203, EVX204, EVX214, EVX205 and EVX215 only), the cell temperature falls below that at which the display was initially blocked (or if a temperature alarm is signaled)
(10) if parameter F3 is set to 0 or 2, the instruments will function as if parameter d8 were set to 0
(11) if when defrosting is activated, the operating duration of the compressor is less than the time established with parameter d5, the compressor will remain on for the amount of time necessary to complete defrosting
(12) if parameter F3 is set to 0, the instrument will function as if parameter A6 were set to 0 but it will not store the alarm
(13) during defrosting and dripping and when the evaporator fan is stopped, the temperature alarms are absent, provided that these were signaled after the activation of defrosting
(14) during activation of the door microswitch input, the maximum temperature alarm is absent, provided the alarm was signaled after the activation of the input
(15) when power is restored, the alarm will always be signaled
(16) if parameter F3 is set to 0, the instrument will function as if parameter F0 were set to 2
(17) the parameter can also be modified using the procedure described in paragraph 4.8
(18) if parameter P4 is set to 0, the condenser fan will function in parallel with the compressor
(19) the compressor is switched off 10 sec after the activation of the input; if the input is activated during defrosting or when the evaporator fan is deactivated, the activation will not have any effect on the compressor
(20) the instrument stores the alarm once the time established in parameter r2 has expired; if parameter r2 is set to -1, the instrument will not store the alarm
(21) make sure that the time established with parameter r7 is less than that established with parameter r9
(22) to avoid damaging the unit connected to the instrument, change the parameter setting when the instrument is switched off
(23) if parameter u2 is set to 0, switching off the instrument may cause the cell light and/or the auxiliary output to switch off (the next time the instrument is switched on the unit connected will remain switched off);
if parameter u2 is set to 1, switching off the instrument will not cause the cell light and/or the auxiliary output to switch off (the next time the instrument is switched on the unit connected will remain switched on).

13 ELECTRIC CONNECTION

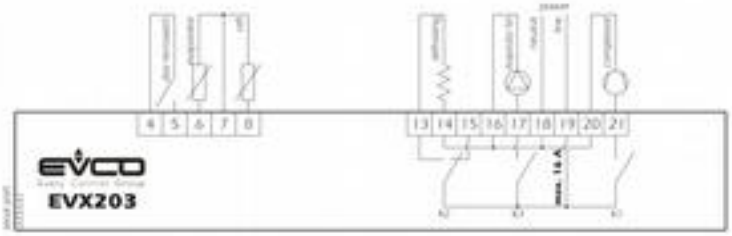
13.1 Preliminary notes

With reference to the electrical wiring diagrams:
- the unit connected to and operated by the fourth output depends on parameter u1 (EVX204, EVX214, EVX205 and EVX215 only)
- the unit connected to and operated by the fifth output depends on parameter u11 (EVX205 and EVX215 only)
- the serial port is the port for communicating with the monitoring system (via serial interface, via TTL, MODBUS communications protocol or by programming key ; the port must not be used for two different purposes simultaneously

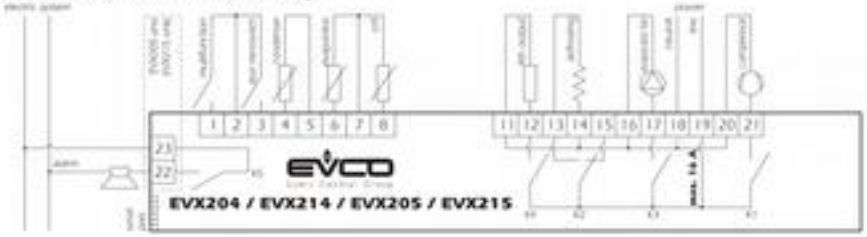
13.2 EVX201 electrical wiring



13.3 EVX203 electrical wiring



13.4 EVX204, EVX214, EVX205 and EVX215 electrical wiring



13.5 Electrical wiring warnings

- do not use electric or pneumatic screwers on the terminal boards
- if the instrument was brought from a cold place to a hot one, humidity may condense inside the instrument, wait approximately one hour before switching on the power
- make sure that the power tension, frequency, and the electric operating power of the instrument are compatible with the those of the local power voltage
- disconnect the power before performing any type of maintenance operation
- do not use the instrument as a safety device
- for information about the instrument and repairs contact a member of the Evco sales network

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

EVCO
Every Control Group

20th anniversary

EVX

Controllori digitali per armadi frigoriferi integrabili nell'unità

Digital controllers for refrigerated cabinets that can be integrated in the unit

Installazione a retro pannello, con viti prigioniere M3 e con frontale adesivo in poliestere / *Installation by back panel, with M3 threaded studs and with polyester adhesive overlay.*

EVX è una serie di controllori digitali studiati per la gestione di armadi refrigerati a temperatura normale o a bassa temperatura integrabili sia meccanicamente che esteticamente nell'unità.
La serie è composta da 6 strumenti: EVX201,EVX203,EVX204,EVX214,EVX205 ed EVX215.
EVX201 dispone di:
- 1 ingresso analogico (sonda cella) per sonde NTC
- 1 ingresso digitale (micro porta)
- 1 uscita digitale (relè elettromeccanico) da 16 A res. @ 250 VAC per la gestione del compressore;lo sbrinamento avviene per fermata del compressore
- porta seriale con protocollo di comunicazione MODBUS.

EVX203 dispone di:
- 2 ingressi analogici (sonda cella e sonda evaporatore) per sonde NTC
- 1 ingresso digitale (micro porta)
- 3 uscite digitali (relè elettromeccanici) di cui 1 da 16 A res. @ 250 VAC per la gestione del compressore e 2 da 8 A res. @ 250 VAC per la gestione dello sbrinamento e del ventilatore dell'evaporatore;lo sbrinamento può essere di tipo elettrico o a gas caldo
- porta seriale con protocollo di comunicazione MODBUS.

EVX204,EVX214,EVX205 ed EVX215 dispongono di:
- orologio (solo nell'EVX214 e nell'EVX215)
- buzzer di allarme
- 3 ingressi analogici (sonda cella,sonda evaporatore e sonda condensatore) per sonde NTC
- 2 ingressi digitali (micro porta e multifunzione)
- 5 uscite digitali (relè elettromeccanici, 4 nell'EVX204 e nell'EVX214) di cui 1 da 30 A res. @ 250 VAC per la gestione del compressore e 4 da 8 A res. @ 250 VAC per la gestione dello sbrinamento, del ventilatore dell'evaporatore, di una quarta utenza (impostabile per luce della cella, resistenze antiappannamento, uscita ausiliaria, uscita di allarme, resistenze della porta, valvola dell'evaporatore o ventilatore del condensatore) e di una quinta utenza (quest'ultima solo nell'EVX205,nell'EVX215 e impostabile allo stesso modo della quarta);lo sbrinamento può essere di tipo elettrico o a gas caldo
- porta seriale con protocollo di comunicazione MODBUS.

I dispositivi si presentano in scheda a giorno,per la completa integrazione meccanica ed estetica nell'armadio;l'interfaccia utente è composta da un display custom da 4 digit (con icone funzione) e da 6 tasti (set, up, down, sbrinamento, luce cella e on/stand-by).
L'installazione è prevista a retro pannello,con viti prigioniere M3.
Attraverso l'orologio è possibile programmare fino a 6 orari giornalieri di attivazione dello sbrinamento e 1 orario giornaliero di attivazione di attivazione della funzione "Energy Saving"; la funzione "Energy Saving" viene attivata anche automaticamente, in assenza di attivazioni dell'ingresso micro porta.
Attraverso la funzione "HACCP" è possibile memorizzare fino a 9 eventi (3 negli strumenti senza orologio) per ognuno dei 4 allarmi HACCP (allarme di temperatura di minima, allarme di temperatura di massima, allarme ingresso micro porta e allarme interruzione dell'alimentazione, quest'ultimo solo negli strumenti con orologio); per ogni allarme HACCP è possibile memorizzare il valore critico, la data e l'ora in cui l'allarme si è manifestato (queste ultime due solo negli strumenti con orologio) e la durata.
Attraverso la chiave di programmazione EVKEY (da ordinare separatamente) è possibile eseguire l'upload e il download dei parametri di configurazione.
Attraverso un'interfaccia seriale (da ordinare separatamente) è inoltre possibile collegare il controllore al sistema software di set-up Parameters Manager, a quello di monitoraggio e supervisione di impianti RICS o al dispositivo per la registrazione di dati, per il download di dati registrati (via USB) e per l'upload e il download di parametri di configurazione EVUSBREC01 (via TTL, con protocollo di comunicazione MODBUS).
Tra le molte caratteristiche si segnalano anche:
- connessione diretta dei carichi (salvo la quinta utenza)
- gestione su due livelli dell'allarme condensatore surriscaldato
- memorizzazione dell'intervallo di sbrinamento
- gestione adattativa dello sbrinamento (l'intervallo di sbrinamento è di volta in volta funzione delle condizioni dell'evaporatore, attraverso il continuo campionamento della sua temperatura)

EVX is a series of digital controllers for normal temperature or low temperature refrigerated cabinets that can be integrated both mechanically and aesthetically in the unit.
The series consists of 6 instruments: EVX201,EVX203,EVX204,EVX214,EVX205 and EVX215.
EVX201 has got:
- *1 analog input (cabinet probe) for NTC probes*
- *1 digital input (door switch)*
- *one 16 res. A @ 250 VAC digital output (electromechanical relay) for the compressor management;the defrost is allowed stopping the compressor*
- *serial port with MODBUS communication protocol.*

EVX203 has got:
- *2 analog inputs (cabinet probe and evaporator probe) for NTC probes*
- *1 digital input (door switch)*
- *3 digital outputs (electromechanical relays) of which one 16 res.A @ 250 VAC relay for the compressor management and two 8 res. A @ 250 VAC relays for defrost and evaporator fan management;the defrost can be electric or by hot gas*
- *serial port with MODBUS communication protocol.*

EVX204,EVX214,EVX205 and EVX215 have got:
- *real time clock (only in EVX214 and EVX215)*
- *alarm buzzer*
- *3 analog inputs (cabinet probe,evaporator probe and condenser probe) for NTC probes*
- *2 digital inputs (door switch and multipurpose)*
- *5 digital outputs (electromechanical relays, 4 in EVX204 and EVX214) of which one 30 res.A @ 250 VAC relay for the compressor management and four 8 res. A @ 250 VAC relays for defrost, evaporator fan, load # 4 management (programmable as cabinet light, demisting heater, auxiliary output, alarm output, door heater, evaporator valve or condenser fan) and load # 5 management (this last only in EVX205, EVX215 and programmable just like load # 4); the defrost can be electric or by hot gas*
- *serial port with MODBUS communication protocol.*

The devices look in open frame board for the full mechanical and aesthetics integration in the cabinet; the user interface is made of a 4 digits custom display (with function icons) and 6 buttons (set, up, down, defrost, cabinet light and on/stand-by).
Installation is by back panel, with M3 threaded studs.
Through the real time clock it is possible to program up to 6 daily hours for the defrost activation and 1 daily hour for the "Energy Saving" function activation; function "Energy Saving" is also automatically activated, in absence of door switch input activations.
Through function "HACCP" it is possible to store up to 9 events (3 in the instruments without real time clock) for each of the 4 HACCP alarms (lower temperature alarm, upper temperature alarm, door switch input alarm and lack of power supply alarm, this last only in the instruments with real time clock); for each HACCP alarm it is possible to store the critical value, the date and the time the alarm has arisen (these last two only in the instruments with real time clock) and the duration.
Through the programming key EVKEY (to order separately) it is possible to make the upload and the download of the configuration parameters.
Through a serial interface (to order separately) it is also possible to connect the controller to the set-up software system Parameters Manager, to the plants monitoring and supervision one RICS or to the device for the data recording, for the recorded data download (via USB) and for the upload and the download of configuration parameters EVUSBREC01 (via TTL, with MODBUS communication protocol).
Among the several features one also highlights:
- *direct loads connection (but load # 5)*
- *overheated condenser alarm management on two levels*
- *defrost interval storing*
- *adaptative management of the defrost (the defrost interval is from time to time function of the evaporator conditions, through the continuous sampling of its temperature)*
- *temperature alarms management*
- *compressor working hours counter*
- *low or high relative humidity percentage operation*
- *function "overcooling"*

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Modelli disponibili / *Available models*

Controllori digitali per armadi frigoriferi statici / Digital controllers for normal temperature refrigerated cabinets.

Codice / *Code*	Caratteristiche principali / *Main features*
EVX201N7	1 uscita digitale (relè elettromeccanico) da 16 A res. @ 250 VAC per la gestione del compressore, 1 ingresso analogico (sonda cella) per sonde NTC, alimentazione 230 VAC, porta seriale TTL con protocollo di comunicazione MODBUS / *One 16 res.A @ 250 VAC digital output (electromechanical relay) for the compressor management, 1 analog input (cabinet probe) for NTC probes, power supply 230VAC, TTL serial port with MODBUS communication protocol*
EVX201N7FXB	1 uscita digitale (relè elettromeccanico) da 16 A res. @ 250 VAC per la gestione del compressore, 1 ingresso analogico (sonda cella) per sonde NTC, alimentazione 230 VAC, buzzer di allarme, porta seriale TTL con protocollo di comunicazione MODBUS / *One 16 res.A @ 250 VAC digital output (electromechanical relay) for the compressor management, 1 analog input (cabinet probe) for NTC probes, power supply 230VAC, alarm buzzer, TTL serial port with MODBUS communication protocol*

Controllori digitali per armadi frigoriferi ventilati / Digital controllers for low temperature refrigerated cabinets.

Codice / *Code*	Caratteristiche principali / *Main features*
EVX203N7	3 uscite digitali (relè elettromeccanici) da 16 A res. @ 250 VAC per la gestione del compressore, 1 ingresso analogico (sonda cella,) per sonde NTC, alimentazione 230VAC, porta seriale TTL con protocollo di comunicazione MODBUS / *3 digital outputs (electromechanical relays) of which one 16 res.A @ 250VAC relay for the compressor management, 2 analog inputs (cabinet probe and evaporator probe) for NTC probes, power supply 230VAC, TTL serial port with MODBUS communication protocol*
EVX203N7FXB	3 uscite digitali (relè elettromeccanici) da 16 A res. @ 250 VAC per la gestione del compressore, 1 ingresso analogico (sonda cella,) per sonde NTC, alimentazione 230VAC, buzzer di allarme, porta seriale TTL con protocollo di comunicazione MODBUS / *3 digital outputs (electromechanical relays) of which one 16 res.A @ 250VAC relay for the compressor management, 2 analog inputs (cabinet probe and evaporator probe) for NTC probes, power supply 230 VAC, alarm buzzer, TTL serial port with MODBUS communication protocol*
EVX204N7	4 uscite digitali (relè elettromeccanici) di cui 1 da 30 A res. @ 250 VAC per la gestione del compressore, 3 ingressi analogici (sonda cella, sonda evaporatore e sonda condensatore) per sonde NTC, alimentazione 230 VAC, buzzer di allarme, porta seriale TTL con protocollo di comunicazione MODBUS / *4 digital outputs (electromechanical relays) of which one 30 res.A @ 250VAC for the compressor management, 3 analog inputs (cabinet probe, evaporator probe and condenser probe) for NTC probes, power supply 230VAC, alarm buzzer, TTL serial port with MODBUS communication protocol*
EVX214N7	Orologio, 4 uscite digitali (relè elettromeccanici) di cui 1 da 30 A res. @ 250 VAC per la gestione del compressore, 3 ingressi analogici (sonda cella, sonda evaporatore e sonda condensatore) per sonde NTC, alimentazione 230 VAC, buzzer di allarme, porta seriale TTL con protocollo di comunicazione MODBUS / *Real time clock, 4 digital outputs (electromechanical relays) of which one 30 res.A @ 250VAC for the compressor management, 3 analog inputs (cabinet probe, evaporator probe and condenser probe) for NTC probes, power supply 230VAC, alarm buzzer, TTL serial port with MODBUS communication protocol*
EVX205N7	5 uscite digitali (relè elettromeccanici) di cui 1 da 30 A res. @ 250 VAC per la gestione del compressore, 3 ingressi analogici (sonda cella, sonda evaporatore e sonda condensatore) per sonde NTC, alimentazione 230 VAC, buzzer di allarme, porta seriale TTL con protocollo di comunicazione MODBUS / *5 digital outputs (electromechanical relays) of which one 30 res.A @ 250VAC for the compressor management, 3 analog inputs (cabinet probe, evaporator probe and condenser probe) for NTC probes, power supply 230VAC, alarm buzzer, TTL serial port with MODBUS communication protocol*
EVX215N7	Orologio, 5 uscite digitali (relè elettromeccanici) di cui 1 da 30 A res. @ 250 VAC per la gestione del compressore, 3 ingressi analogici (sonda cella, sonda evaporatore e sonda condensatore) per sonde NTC, alimentazione 230 VAC, buzzer di allarme, porta seriale TTL con protocollo di comunicazione MODBUS / *Real time clock, 5 digital outputs (electromechanical relays) of which one 30 res.A @ 250VAC for the compressor management, 3 analog inputs (cabinet probe, evaporator probe and condenser probe) for NTC probes, power supply 230VAC, alarm buzzer, TTL serial port with MODBUS communication protocol*

Per altri modelli contattare la rete vendita Evco all'indirizzo sales@evco.it / For further models please contact the Evco sales network at the address sales@evco.it.

Accessori / *Accessories*

Chiave di programmazione / *Programming key*

EVKEY

Permette l'upload e il download dei parametri di configurazione del controllore / *It allows uploading and downloading the configuration parameters of the controller.*

Alimentatore / *Power supplier*

EVPS

Permette di supportare EVKEY quando il controllore non è alimentato / *It allows supporting EVKEY when the controller is not powered.*

Interfaccia seriale TTL / RS-485 non isolata / *Not insulated TTL / RS-485 serial interface*

EVIF20TSX

Permette il collegamento del controllore a Parameters Manager, a RICS o a EVUSBREC01 / *It allows connecting the controller to Parameters Manager, to RICS or to EVUSBREC01.*

Dispositivo per la registrazione di dati / *Device for the data recording*

EVUSBREC01

Permette la registrazione dei dati del controllore e il loro download (via USB, in un documento di testo) / *It allows recording the data of the controller and their download (via USB, in a text document).*

Frontale adesivo in poliestere / *Polyester adhesive overlay*

0041600228

Permette il lavaggio del frontale del controllore / *It allows washing the frontal of the controller.*

Evco è inoltre in grado di fornire interfacce seriali isolate e sonde di temperatura / Evco can also supply insulated serial interfaces and temperature probes.

Organizzazione con Sistema di Gestione certificato / *Company with Management System certified*

ISO 9001:2000

Evco si riserva il diritto di apportare qualsiasi modifica senza preavviso e in qualsiasi momento senza pregiudicare le caratteristiche

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

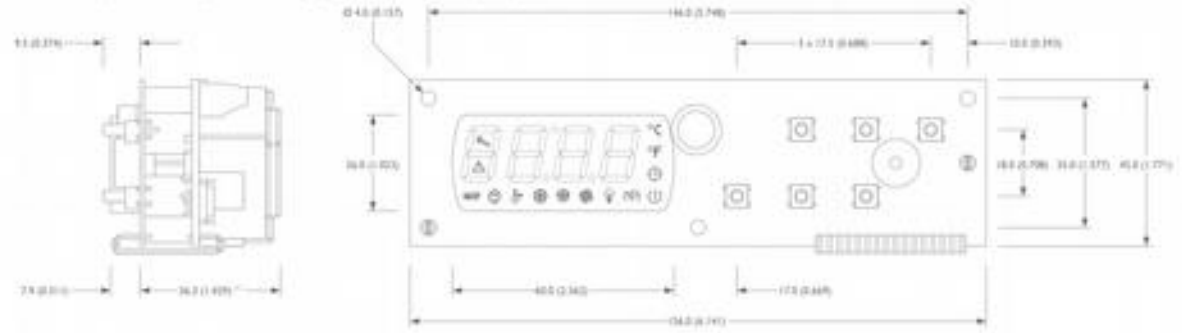
Caratteristiche principali / *Main features*

Interfaccia utente (scheda a giorno) / *User interface (open frame board)*	EVX201	EVX203	EVX204	EVX214	EVX205	EVX215
156.0 x 45.0 mm (6.141 x 1.771 in) (L x H)	•	•	•	•	•	•
Display custom da 4 digit (con icone funzione) / *4 digits custom display (with function icons)*	•	•	•	•	•	•
6 tasti / *6 buttons*	•	•	•	•	•	•
Punto decimale grado Celsius / *Decimal point Celsius degree*	•	•	•	•	•	•
Connessioni / *Connections*	EVX201	EVX203	EVX204	EVX214	EVX205	EVX215
Faston + morsettiera fissa a vite / *Faston + fix screw terminal block*	•	•	•	•	•	•
Alimentazione / *Power supply*	EVX201	EVX203	EVX204	EVX214	EVX205	EVX215
230VAC	•	•	•	•	•	•
115VAC	•	•	•	•	•	•
Ingressi analogici / *Analog inputs*	EVX201	EVX203	EVX204	EVX214	EVX205	EVX215
Sonda cella / *Cabinet probe*	NTC	NTC	NTC	NTC	NTC	NTC
Sonda evaporatore / *Evaporator probe*		NTC	NTC	NTC	NTC	NTC
Sonda condensatore / *Condenser probe*			NTC	NTC	NTC	NTC
Ingressi digitali (per contatto NA / NC) / *Digital inputs (for NO / NC contact)*	EVX201	EVX203	EVX204	EVX214	EVX205	EVX215
Micro porta / *Door switch*	•	•	•	•	•	•
Multifunzione / *Multipurpose*			•	•	•	•
Uscite digitali (relè elettromeccanici; A res. @ 250 VAC) / *Digital outputs (electromechanical relays; res.A @ 250VAC)*	EVX201	EVX203	EVX204	EVX214	EVX205	EVX215
Compressore / *Compressor*	16 A [1]	16 A [1]	30 A	30 A	30 A	30 A
Sbrinamento / *Defrost*		8 A	8 A	8 A	8 A	8 A
Ventilatore dell'evaporatore / *Evaporator fan*		8 A	8 A	8 A	8 A	8 A
Quarta utenza / *Load # 4* Luce della cella, resistenza antiappannamento, uscita ausiliaria, uscita di allarme, resistenza della porta, ventola dell'evaporatore o ventilatore del condensatore / *Cabinet light, dumping heater, auxiliary output, alarm output, door heater, evaporator valve or condenser fan*			8 A	8 A	8 A	8 A
Quinta utenza / *Load # 5* Luce della cella, resistenza antiappannamento, uscita ausiliaria, uscita di allarme, resistenza della porta, ventola dell'evaporatore o ventilatore del condensatore / *Cabinet light, dumping heater, auxiliary output, alarm output, door heater, evaporator valve or condenser fan*					8 A	8 A
Porte di comunicazione / *Communication ports*	EVX201	EVX203	EVX204	EVX214	EVX205	EVX215
TTL con protocollo di comunicazione MODBUS / *TTL with MODBUS communication protocol* Per EVK[1] Parameters Manager, RICS o EVUSBRS232 / *For EVK[1] Parameters Manager, RICS or EVUSBRS232*	•	•	•	•	•	•
Altre caratteristiche / *Other features*	EVX201	EVX203	EVX204	EVX214	EVX205	EVX215
Orologio / *Real time clock*				•		•
Buzzer di allarme / *Alarm buzzer*	su richiesta / *by request*	su richiesta / *by request*	•	•	•	•
Connessione diretta dei carichi / *Direct loads connection*	•	•	•	•	salvo la quinta utenza / *but load # 5*	salvo la quinta utenza / *but load # 5*
Gestione su due livelli dell'allarme condensatore surriscaldato / *Overheated condenser alarm management on two levels*			•	•	•	•
Memorizzazione dell'intervallo di sbrinamento / *Defrost interval storing*	•	•	•	•	•	•
Gestione adattativa dello sbrinamento / *Adaptative management of the defrost*		•	•	•	•	•
Gestione degli allarmi di temperatura / *Temperature alarms management*	•	•	•	•	•	•
Conteggio delle ore di funzionamento del compressore / *Compressor working hours counter*		•	•	•	•	•
Funzionamento per bassa o per alta percentuale di umidità relativa / *Low or high relative humidity percentage operation*		•	•	•	•	•
Funzione "HACCP" / *Function "HACCP"*	semplice / *easy*	semplice / *easy*	semplice / *easy*	avanzata / *advanced*	semplice / *easy*	avanzata / *advanced*
Funzione "Energy Saving" / *Function "Energy Saving"*		•	•	•	•	•
Funzione "overcooling" (raffreddamento rapido) / *Function "overcooling"*	•	•	•	•	•	•
Funzione "blocco tastiera" / *Function "lock keyboard"*	•	•	•	•	•	•
Password di accesso ai parametri di configurazione / *Access password to configuration parameters*	•	•	•	•	•	•
Ripristino delle impostazioni di fabbrica / *Factory settings restoring*	•	•	•	•	•	•

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

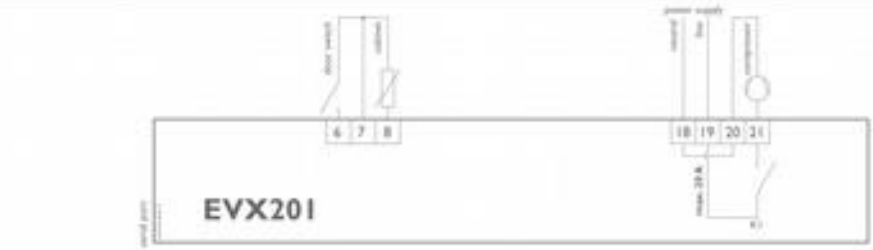
Dimensioni e installazione / *Size and installation* Dimensioni in mm (in) / *Size in mm (in)*

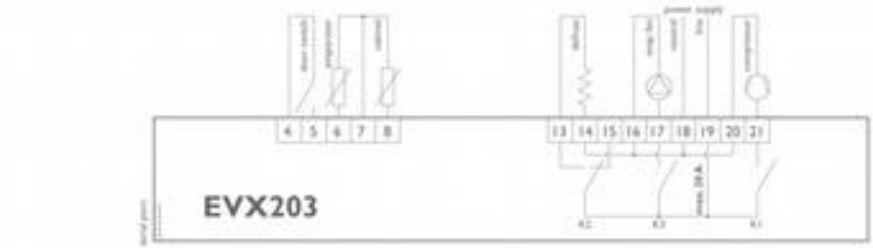
L'installazione è prevista a retro pannello, con viti prigioniere M3 / *Installation is by back-panel, with M3 threaded studs.*

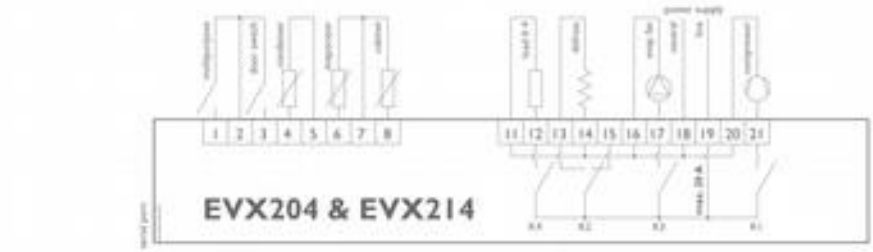


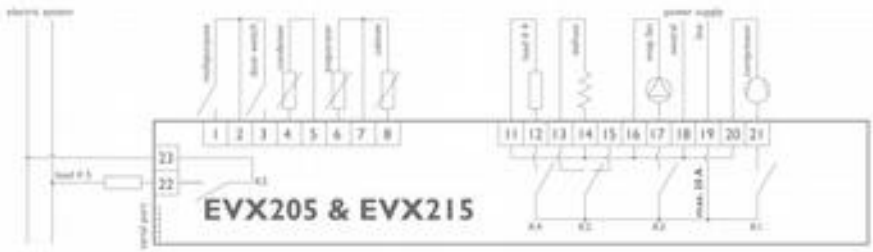
(1) 40.8 (1.606) nell'EVX205 e nell'EVX215 / *40.8 (1.606) in EVX205 and EVX215.*

Collegamento elettrico / *Wiring diagram*









PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

EVCO S.p.a.
Scheda tecnica

DATI GENERALI

Data: *04-08-11*
N° codice: *0041600279 (frontale linea EVX black dim. 207,7x52,7mm)*
Prodotto: *frontalino in poliestere*
Progetto: *nuovo*

MATERIALI

Policarbonato:
- ☐ *120 µ goffrato G.E.*
- ☐ *175 µ goffrato Bayer Term.*
- ☐ *250 µ goffrato G.E.*
- ☐ *250 µ lucido G.E.*
- ☐ *500 µ goffrato G.E.*
- ☐ *500 µ lucido G.E.*
- ☐ *Altro:*

Poliestere:
- ■ *150 µ goffrato Autotype Term.*
- ☐ *185 µ lucido Mowinkell Term.*
- ☐ *200 µ goffrato Autotype*
- ☐ *300 µ goffrato Autotype*
- ☐ *Altro:*

Adesivi:
- ■ *Massa 50 µ 7952 3M*
- ☐ *Biadesivo 127 µ 7955 3M*
- ☐ *Spaziatore 150 µ 7956 3M*
- ☐ *Spaziatore 225 µ 7959 3M*
- ☐ *Biadesivo 130 µ F3114 Mowinkell*
- ☐ *Biadesivo 150 µ N500 Nitto*
- ☐ *Altro:*

ATTREZZATURE

Fustelle ***Policarbonato:*** *P0069*
Biadesivo: *B0048*

Piastra termoformatura ***N° impronte:*** *6 (piastra T0018)*
Dimensioni impronte: *ø12,0 mm*
Profondità impronte: *standard*

DATI PROGETTO

N° colori di stampa: *2*
Lucidante U.V.: *1 lato*
Dimensioni: *201,7 x 52,7 mm*
Forma: *rettangolare*
Raggio angoli: *ø26,35 mm (vedi fustella)*

DOCUMENTAZIONE FORNITA

File CorelDraw 10

1.3 Documentation of programming key accessory for EVCO control unit

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

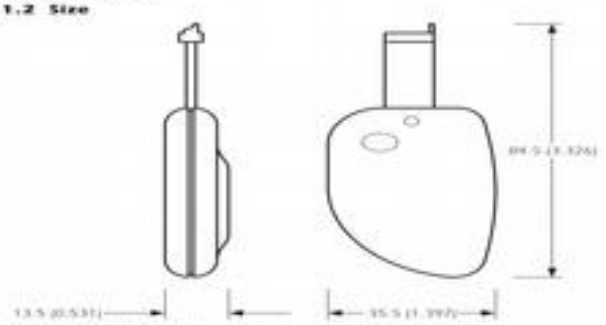
GB ENGLISH

1 GETTING STARTED

1.1 Important

Read these instructions carefully before using the key and follow all additional information; keep these instructions close to the key for future consultations.

1.2 Size



Additional information:

- working conditions (working temperature, humidity, etc.) must be between the limits indicated in the technical data
- if the key has been moved from a cold location to a warm one, the humidity could condense on the inside; wait about an hour before using it
- for repairs and information on the key please contact Evco sales network

2 OPERATION (NOT VALID FOR EVK100 AND EVKS00)

2.1 Preliminary information

The key can only be used with instruments provided with serial port for the communication with the programming key (hereinafter called "port 1").

The key allows to:

- copy the working setpoint and configuration parameters (hereinafter called "parameters set") from the instrument to the key (upload)
- copy the parameters set from the key to the instrument (download).

The copy of the parameters set from the key to the instrument (download) is only allowed if the firmwares of the instruments coincide.

The key can be used both with supplied instruments and not; in this last case it takes to use a power supplier (available by request).

The power supplier supports the copy of the parameters set, not the operation of the instrument.

The copy of the parameters set takes 10 s at most; if in this time the key does not signal the operation has successfully been completed (or the LED of the key stops shedding red light to shed green light again), it takes to repeat the copy.

2.2 Copying the parameters set from a supplied instrument to the key (upload)

- cut off the power supply of the instrument
- connect the key to the port 1 of the instrument
- supply the instrument; the LED of the key will shed green light
- after the internal test the display of the instrument shows "**Cln**" flashing; the outputs are turned off
- keep pressed button [SET] of the instrument 4 s; the display of the instrument will show "**St**" flashing
- keep pressed button [SET] of the instrument 4 s; "**St**" will stop flashing to remain lit up permanently; the LED of the key will shed red light and the parameter set will be copied from the instrument to the key; after the copy the instrument restores the normal operation and the LED of the key sheds green light again
- disconnect the key

To quit the procedure:

- do not operate 60 s or disconnect the key when its LED sheds green light and switch off/on the power supply of the instrument.

2.3 Copying the parameters set from a not supplied instrument to the key (upload)

- connect the key to the port 1 of the instrument
- connect the pin of the power supplier to the key
- put the plug of the power supplier in a socket; the LED of the key will shed green light
- after the internal test the display of the instrument shows "**Cln**" flashing
- keep pressed button [SET] of the instrument 4 s; the display of the instrument will show "**St**" flashing
- keep pressed button [SET] of the instrument 4 s; "**St**" will stop flashing to remain lit up permanently; the LED of the key will shed red light and the parameter set will be copied from the instrument to the key; after the copy the LED of the key sheds green light again
- pull out the plug of the power supplier
- disconnect the pin of the power supplier
- disconnect the key

To quit the procedure:

- do not operate 60 s or pull out the plug of the power supplier when the LED of the key sheds green light.

2.4 Copying the parameters set from the key to a supplied instrument (download)

- cut off the power supply of the instrument
- connect the key to the port 1 of the instrument
- supply the instrument; the LED of the key will shed green light
- after the internal test the display of the instrument shows "**Cln**" flashing; the outputs are turned off
- keep pressed the button of the key 1 s; the LED of the key will shed red light and the parameter set will be copied from the key to the instrument; after the copy the display of the instrument shows "**PrG**", the instrument restores the normal operation and the LED of the key sheds green light again
- press a button of the instrument to get "**PrG**" to disappear
- disconnect the key

To quit the procedure:

- do not operate 60 s or disconnect the key when its LED sheds green light and switch off/on the power supply of the instrument.

2.5 Copying the parameters set from the key to a not supplied instrument (download)

- connect the key to the port 1 of the instrument
- connect the pin of the power supplier to the key
- put the plug of the power supplier in a socket; the LED of the key will shed green light
- after the internal test the display of the instrument shows "**Cln**" flashing; the outputs are turned off
- keep pressed the button of the key 1 s; the LED of the key will shed red light and the parameter set will be copied from the key to the instrument; after the copy the display of the instrument shows "**PrG**" and the LED of the key sheds green light again
- press a button of the instrument to get "**PrG**" to disappear
- pull out the plug of the power supplier
- disconnect the pin of the power supplier
- disconnect the key

To quit the procedure:

- do not operate 60 s or pull out the plug of the power supplier when the LED of the key sheds green light.

3 SIGNALS

3.1 Signals of the instrument

CODE	MEANING
Cln or **Cl**	if it flashes, one will have gained access to the procedure to copy the parameters set; the outputs of the instrument are turned off
St	if it flashes, one will have decided to proceed with the copy of the parameters set from the instrument to the key (upload); the outputs of the instrument are turned off if it is lit, the copy of the parameters set from the instrument to the key (upload) will be running; the outputs of the instrument are turned off
PrG or **PG**	the copy of the parameters set from the key to the instrument (download) has successfully finished (press a button of the instrument to get "**PrG**" to disappear); the instrument restores the normal operation

3.2 Signals of the key

LED	MEANING
green	• the key is supplied • the copy of the parameters set is finished
red	• the copy of the parameters set is running

4 ALARMS

4.1 Alarms of the instrument

CODE	MEANING
ES1 or **ES**	The copy of the parameters set from the instrument to the key is failed Remedies: • press a button to restore the normal operation and to silence the buzzer (if present) • check the connection key-instrument • check the integrity of the key • repeat the copy Effects: • no effect
CEr or **CE**	The firmwares of the instruments do not coincide Remedies: • if the instrument is supplied, switch off/on the power supply of the instrument; if the instrument is not supplied, pull out the plug of the power supplier • check the firmwares coincide (check the date of production) Effects: • no effect
End or **Er**	The copy of the parameters set from the key to the instrument is failed Remedies: • press a button to silence the buzzer (if present) • switch off/on the power supply of the instrument • check the connection key-instrument • check the integrity of the key • repeat the copy • restore the default value of configuration parameters Effects: • the outputs will be turned off

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

4.2 Alarms of the key

LED	MEANING
red/ green	One of the alarms indicated in paragraph 4.1

5 TECHNICAL DATA

5.1 Technical data

Box: self-extinguishing grey.

Connections: 6 poles connector (to the serial port of the instrument for the communication with the programming key), pin (to the power supplier, available by request).

Working temperature: from 0 to 55 °C (32 to 131 °F; 10 ... 90% of relative humidity without condensate).

Power supply: if the instrument is supplied, the key will be supplied by the instrument itself; if the instrument is not supplied, the key will be supplied by the power supplier.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

11.4 Documentation of modem GSM/UMTS "HT910 G / E"

Important information

This technical description contains important information for start up and use of the HT910 G Terminal. Read it carefully before you start working with the HT910 G Terminal.

The warranty will be void should damage occur due to non-compliance with these instructions for use. We cannot accept any responsibility for consequential loss.

We cannot be held responsible for material loss or personal injury that is due to incompetent use or non- compliance with the safety instructions. The warranty will be void in such circumstances.
The HT910 G Terminal contains highly integrated components which can be damaged by electrostatic discharge if the user would open the housing.
CEP preserves the right to change the included information without notice and doesn't take responsibility for errors in the document and/or missing information.

Safety Instructions

Before opening of a device always pull the mains adapter or make sure that the device is disconnected from the power supply.
You should only use tools on components, modules or devices if they are disconnected from the power supply and the electric charge, which may still be stored in some components, inside the device has been discharged.
All cables and wires which are energized and connected to the device, the module or components have to be checked regularly for any damage of the isolation shield or fractures of the cables. If the supply cables are visibly damaged the device has to be taken out of operation immediately until the faulty cable has been exchanged.
When using components or modules it is necessary to strictly observe the specification given in the corresponding description of these components. If a description for a private end-customer not clearly states which electric data is valid for a component or a module, how to wire the device, which external components or additional devices can be connected or which parameters these components are allowed to have, a specialist must be contacted.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Before putting a device into operation, it has to be clarified, whether this device or module is meant for the field of application. In case of doubt ask specialists or the manufacturer of the device. Please note that we are not responsible for any errors in usage or connection. Therefore we cannot accept any responsibility for consequential loss.

Devices which operate with >35 Volt have to be connected by a specialist. Before putting the device into operation it should be checked that there is no current leakage on the housing.

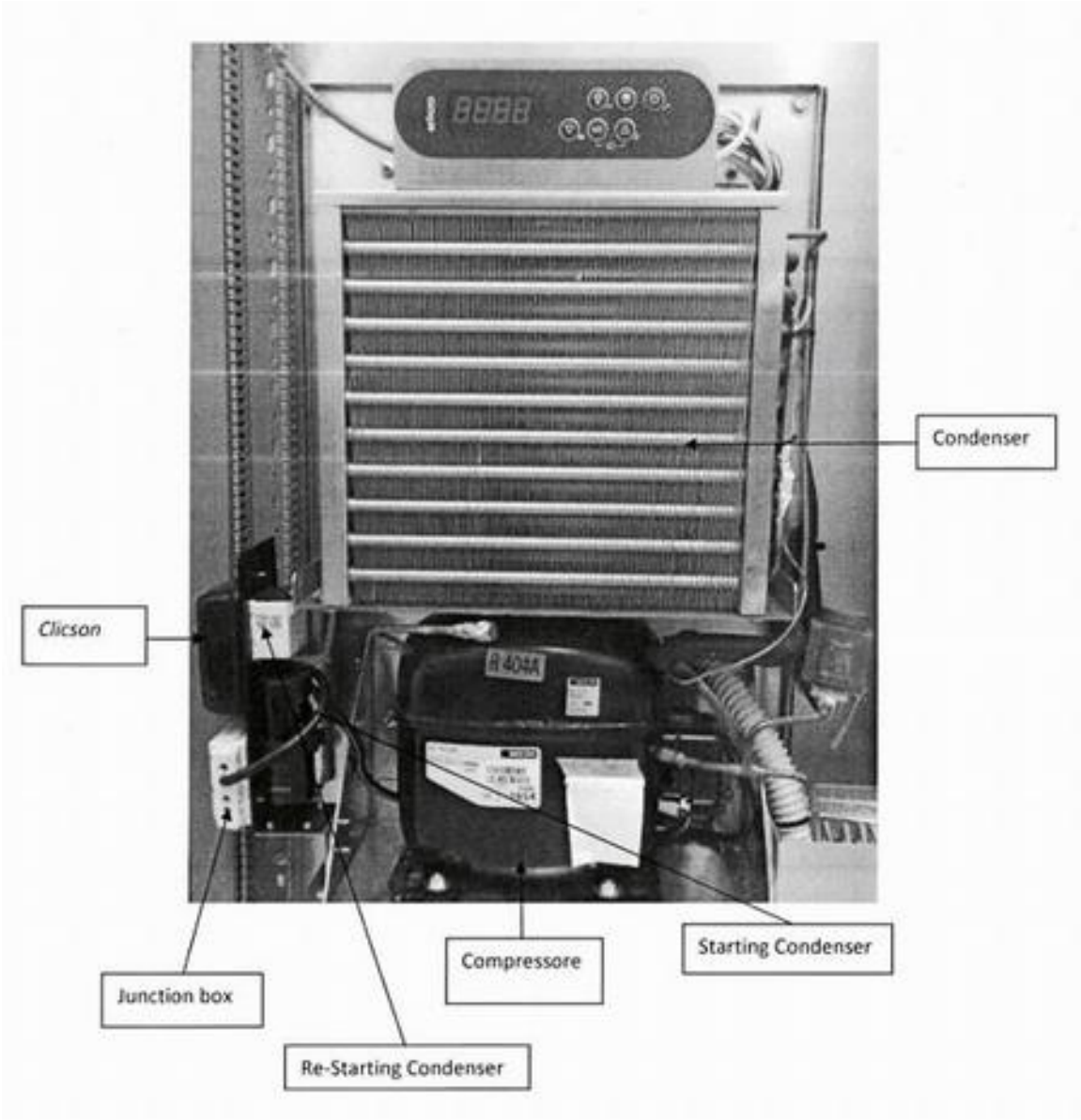
n case those measurements with the opened housing are necessary, an isolating-transformer has to be integrated for safety reasons. Alternatively the voltage can be supplied by an appropriate power supply which complies with the safety regulations. All wiring work has to be done in a voltage free state only.

For more info, please see the full report addressed by the follow link.
https://www.google.it/search?q=HT910+G+Terminal+User+Manual&rlz=1C1WZPD_enIT384IT465&oq=HT910+G+Terminal+User+Manual&aqs=chrome..69i57.540j0j4&sourceid=chrome&ie=UTF-8

Appendix :

Refrigerator unit description :

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de



SC15CLX - 220-240V - 60Hz - 800 Watt – COMPRESSION POWER 15 cubic centimeters.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Loading the fridge of pizzas and update the machine software interface PizzaCookingStudio :

Bend the boxes properly as suggested :

Fig. 85

Fig. 86

thus you may decide to put the filled boxing inside the compenser manually starting from the lowest position as below :

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 87 **Fig. 88**

once you have inserted all the wanted pizzas close the fridge door and update the software PizzaCookingStudio by clicking on 'Fridge load storage' left or right cell. A proper window will open as shown :

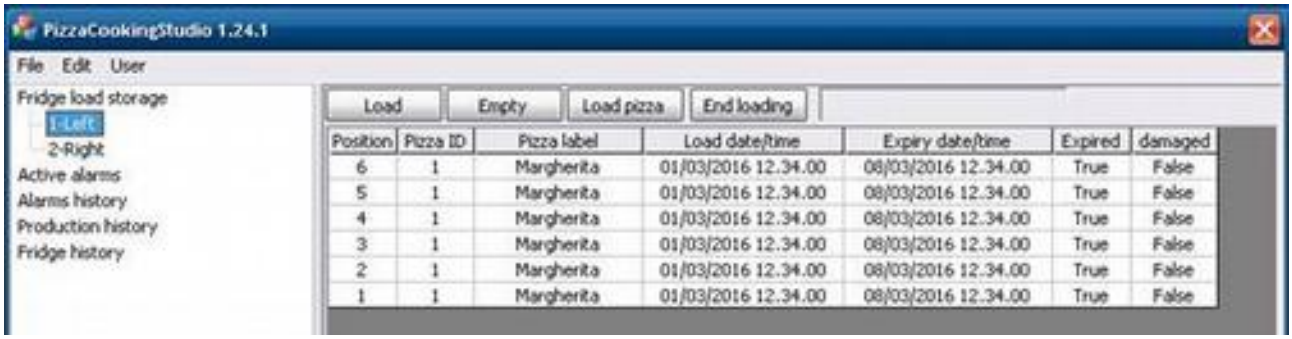


Fig. 89

click on 'Load' and a second page opens :

Fig. 90

then select the type of pizza, set the 'expiry days' and the number of meal it has been put in. Press Load.

Finally press on 'Active Alarm', Reset the machine, close the front door and turn lower key.

In case it is wanted to fill the fridge automatically , repeat the operations described in pictures 85 and 86.

Secondly go to ' Program option' and select the last string to enable the compenser automatic load :

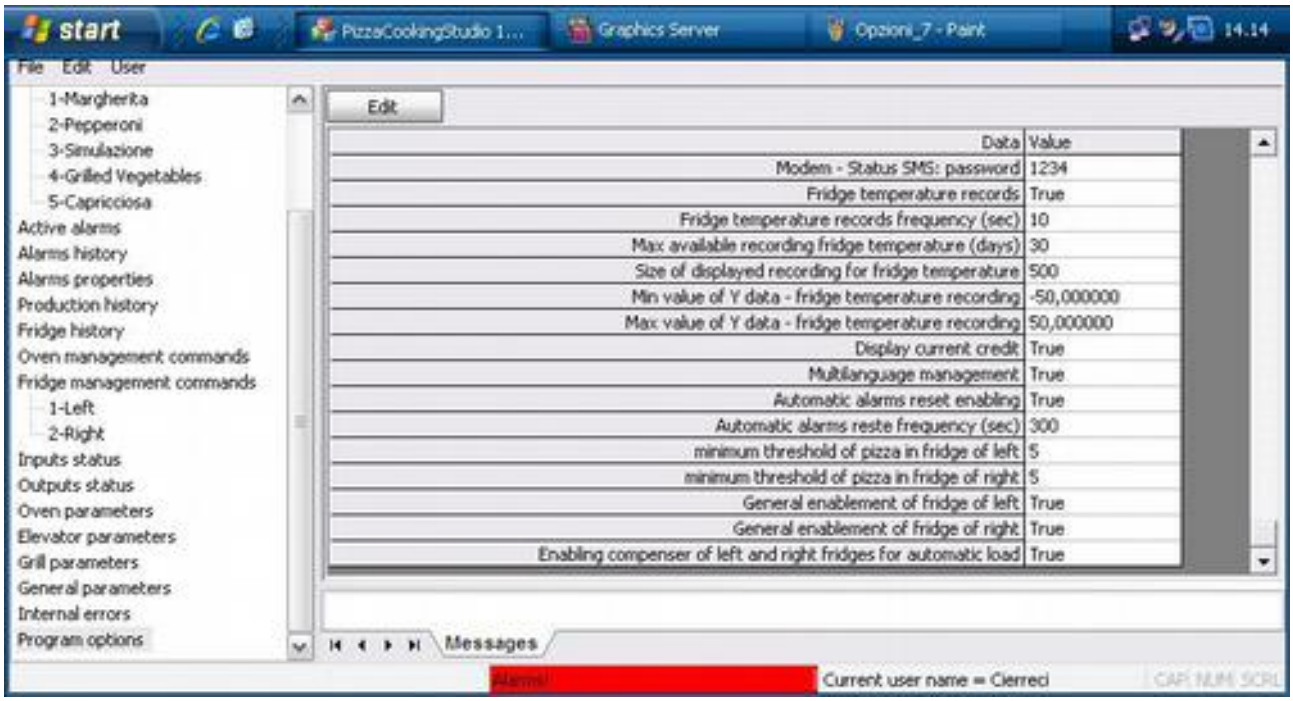


Fig. 91

thirdly, go back to 'Fridge load storage' left or right cell.

When a new page opens :

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 92

select 'load pizza', and put manually a box at the empty fridge lowest position. So the compenser will start moving backward bringing the last box to the top where a photocell controls the moving.

Now you may start inserting new boxes into the cell from the top position to the lower ones, as the compenser steps down automatically every 1/2 seconds.

When you have put in all the wanted number of pizza then press 'End Loading',

Go to 'Active Alarm', Reset the machine and finally turn the front door lower key.

<u>Cleaning fridges stores and compenser</u> :

In order to comply the US's regulatory, Cierreci s.r.l. has developed a storage and handling system that can be completely dismantled to make way for internal cleaning as described ahead.
Storage, made of stainless steel, Fig. 93; fins and compenser made of plastic , Fig. 94, both approved by the NSF 51.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 93

Fig. 94

Warning:
The kind of pizza used into Cierreci s.r.l. vending machine should have a maximum diameter of 11.0236" ; a maximum height of 1.1811" and a weight not exceeding 0.7716 lbs.

To remove the handling system proceed as follow:

1) By using a socket wrench remove the lower bar, Fig. 95,96,97.

Fig. 95

Fig. 96

Fig. 97

2) Place the bar on the refrigerator bottom, Fig. 98.

Fig. 98

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

3) By using a socket wrench remove the four corners big nuts for each storage side, Fig. 99, 100.

Fig. 99

Fig. 100

4) Once you have removed all the nuts, pull up and disentangle the compenser from its supports then remove the insulation panel, Fig. 101.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 101

Fig. 101b

5) Pull up and remove the storage left and right compenser belt and their metal frame, Fig. 101c /Fig. 101d.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 101c

Fig. 101d

6) After cleaning the interiors, perform the reverse procedure to restore the refrigeration cells: compenser belts their metal frames, the 8 bolts, the insulating panel, the lower bar.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

<u>Enabling the pusher anti-icing automatic movement</u> :

Because of the excessive cold inside the fridges storage, the gears of the pushers, which move the pizza from the cold area to the oven one could freeze.

For that reason, Cierreci s.r.l. disposed in the possibility to enable a short and cyclic movement of the pushers so as to prevent and avoid a machine stall.

To enable this modality, select 'General parameters', set to 'true' the option 'Enabling pusher defrosting cycles' and decide the time between one defrosting and its next one as pictured below, Fig. 102 :

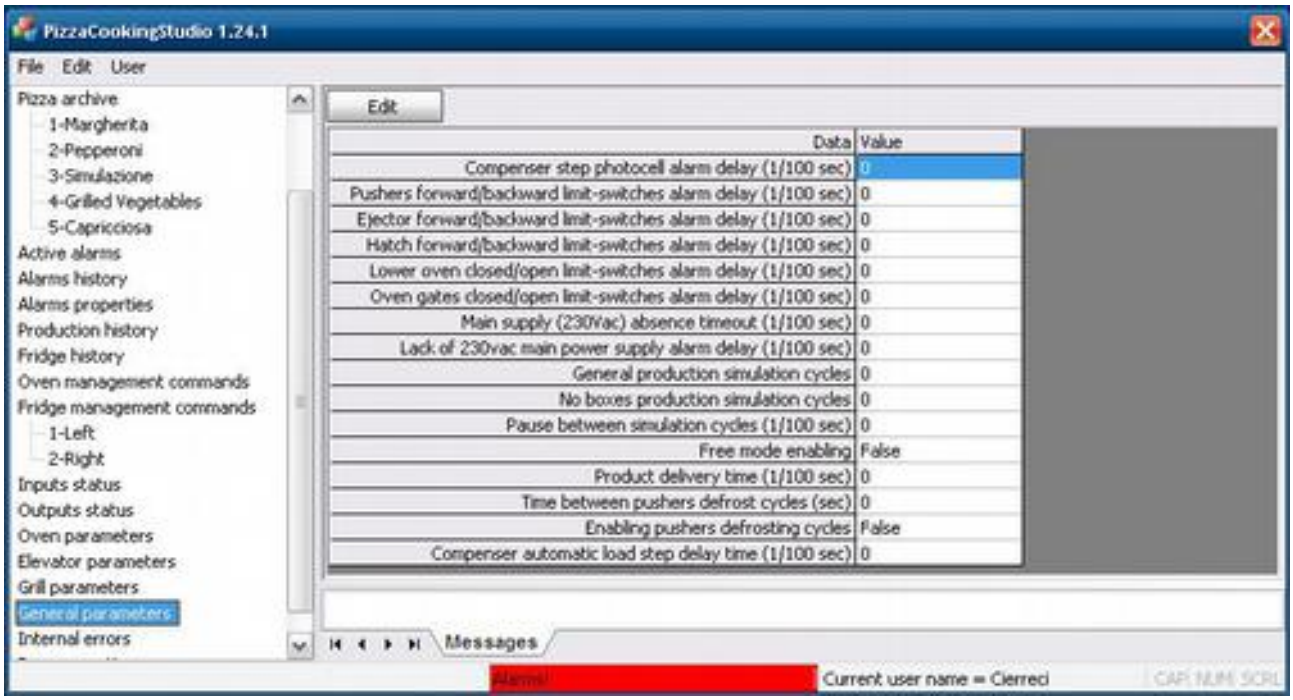


Fig. 102

<u>Upper oven cleaning procedure</u> :

In order to allow a top oven periodic cleaning, some parts of it can be dismantled and removed as shown below :

1) **Remove the carter of the machine rear central door, put the grill arm in backward position, unscrew the two screws holding latch pizza, Fig. 103.**

Fig. 103

2) **Remove the holding latch pizza, Fig. 104.**

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Fig. 104

3) By using a socket wrench remove the top oven glass cover, Fig. 105.

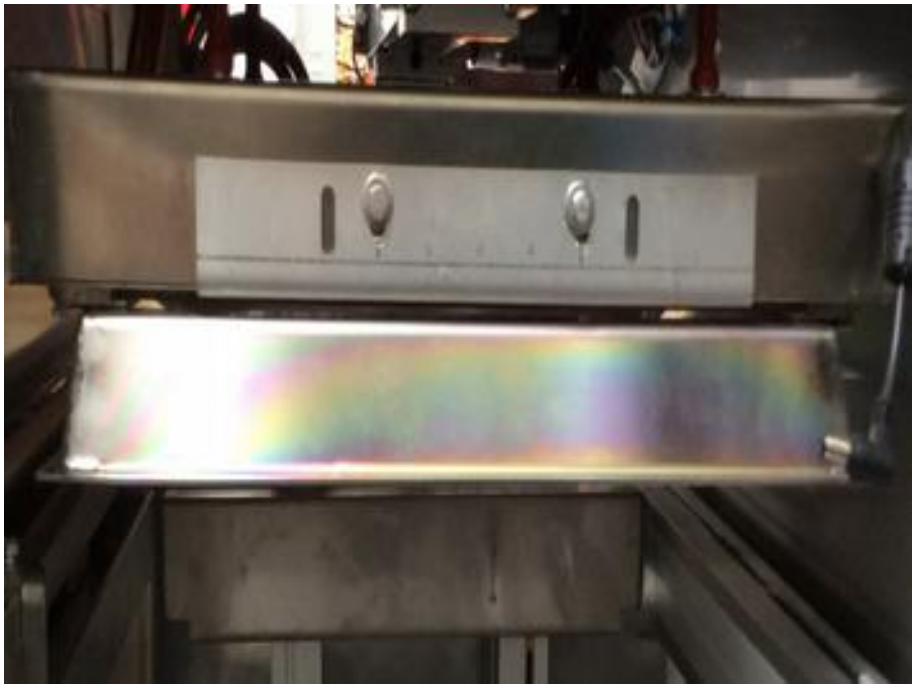


Fig. 105

4) Pull the lower part of the fixed upper oven, Fig. 106.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

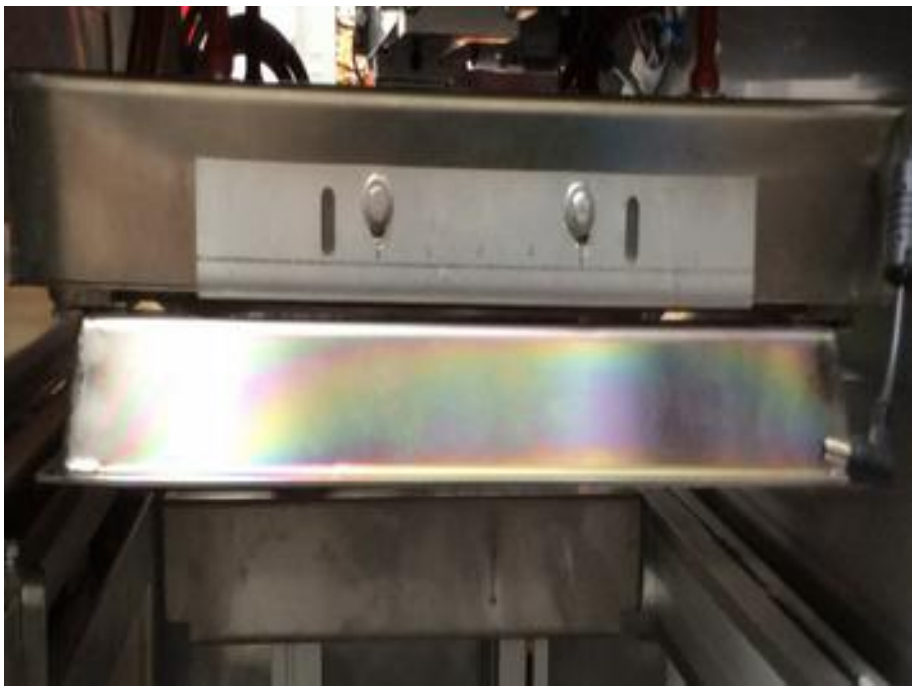


Fig. 106

5) Dismantled parts of the fixed oven, Fig. 107.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

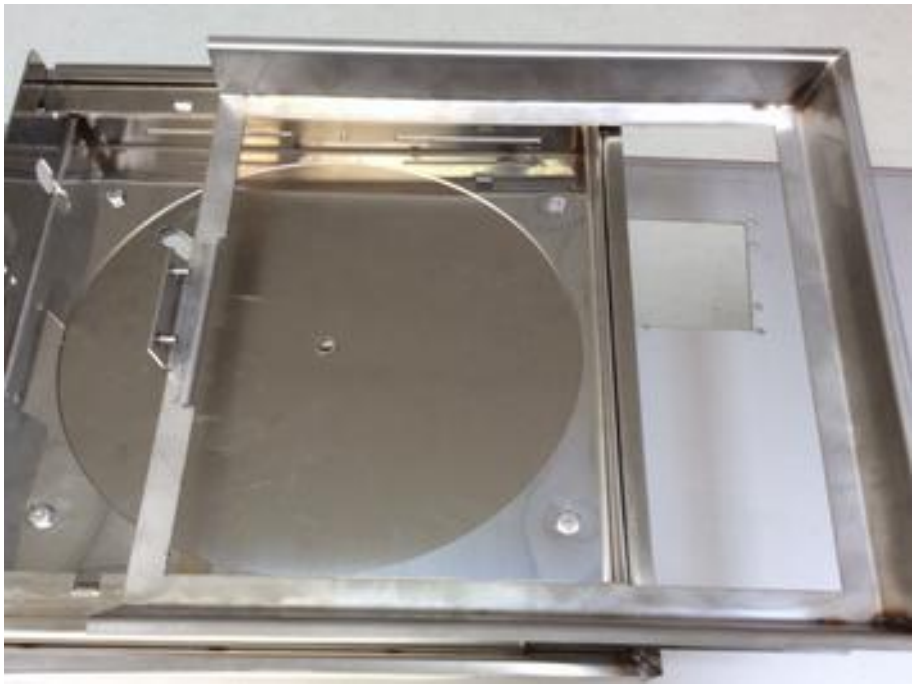


Fig. 107

6) Holding latch pizza, upside down view, Fig. 108.

Fig. 108

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Modem GRPR and remote control :

The 2.0 Vending machine is equipped of a GPRS modem for remote control, Fig. 109.
To activate the modem please do as follow:

- Turn off the UPS.
- Insert a common SIM card in the proper slot.
- Connect the modem serial cable to the PC door, COM2.
- Turn on the UPS.
- Log in PizzaCookingStudio interface as super user 'Cierreci'.
- Select Program Option section.
- Write a cell phone number (up to 10 numbers) in the proper menu.

Fig. 109

The GPRS modem will send text messages to recorded cell phone numbers.
The information sent would be like:

- MN : machine ID number.
- MS : machine status.
- MA : alarm ID code (see alarms description, page 79).
- MC : machine cycles (number of pizza cooked since the start time).

- LT/RT : real time temperature of fridges of left and right.
- LN/RN : number of pizza in stock for both fridges.

Adding a common internet Key and plugging it into a USB door, the vending PC can be connected on line, Fig. 110.

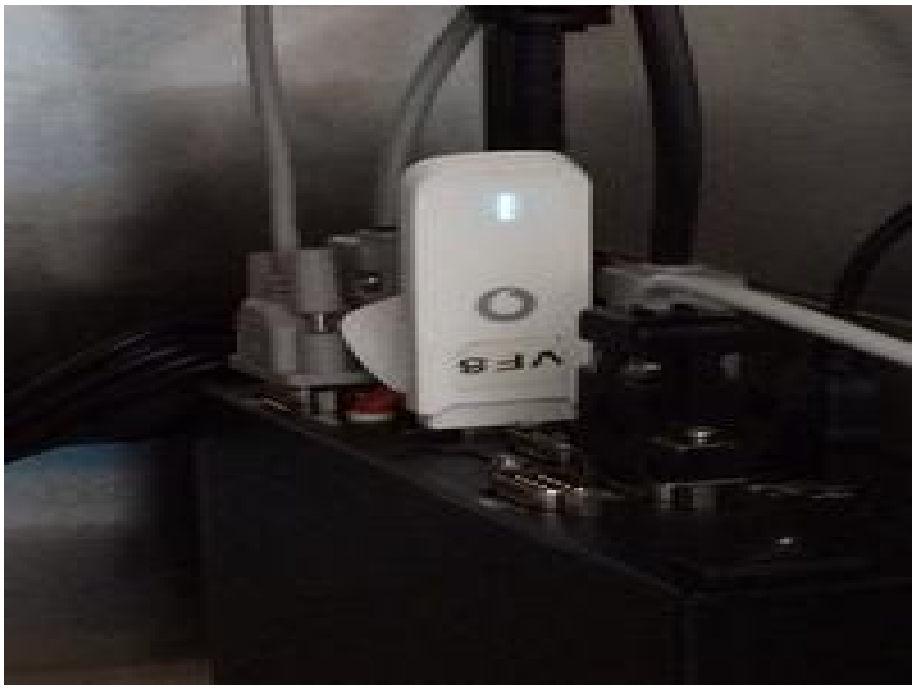


Fig. 110

The internet Key must have a traffic data active card.
Plug the internet key in and follow the questions suggested by the system.
When on line, the machine could be reached using team Viewer application.
For more details about the services provided by Team Viewer, ask to Cierreci Service department.

Based on the actual needs the machine can be connected on line

- via Ethernet or

- via wireless (wi –fi key) or

-via UMTS modem.

Ask to the assistance for details.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

CIERRECI SRL

Technical data communication system GPRS Pizza Machine 2.0

For both functions, the SMS in question has a text formatted as shown below.

MN [MMMM] **MS** [U] **MA** [AAA] **MC** [PPPPPP] **LT** [TTT] **LN** [SS] [HH: NN MM / DD / YYYY] **RT** [TTT] **RN** [SS] [HH: NN MM / DD / YYYY]

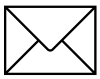
- **MN** : machine number (serial number machine)
- [MMMM] = identification code machine from 0000 to 9999, see Window maintenance program options.
- **MS** : machine status
- [U] = state machine (aka "MACHINE_STATUS"), from 0 to 6, 0 = Select product; 1 = Payment 2 = Processing, 3 = Out of service, 4 = Maintenance, 5 = Auto reset; 6 =Simulation.
- **MA** : machine allarm (code allarm)
- [AAA] = identification code alarm from 000 to 999; "???" Status by SMS.
- **MC** : machine number cycles
- [PPPPPP] = total amount of dispensed products (aka "PRODUCTS_COUNTER") from 000000 to 999999.
- **LT /RT** : left and right temperature (temperature of fridge left and right)
- [TTT] = temperature cold store SX / DX (aka "TEMPERATURE_FRIDGE1 / 2"), from -99 to +99; "LT" for fridge SX and "RT" for fridge DX.
- **LN/RN** : left and right number (remaining number of pizza left and right fridge)
- [SS] = amount of producible products present in the fridge SX / DX; involved only products contiguous, in the vicinity of the exit from the fridge, not past due or compromise; 00 to 99; "LN" for fridge SX and "RN" for DX fridge.
  [HH: NN MM / DD / YYYY] = next date and time of expiry products fridge SX / DX; involved only products contiguous, near the exit area of the fridge, not past due or compromises, before expiry date of all the products involved; "hours: minutes month / day / year ";" 00:00 00/00/0000 "in the case of data not available.

PIZTOP
GEORG DEUTSCHLE STR: 70
73730 Esslingen.
Tel. ++49 0 71537505025
E-mail: info@piztop.de

Technical support

For technical assistance it is advised that contact be made directly **CIERRECI s.r.l.** which will repair/replace the defective product or provide the names of qualified technicians in the area.

PIZTOP - CIERRECI S.R.L.



Via PRANDI, 2

42019 SCANDIANO (RE) Italy

Tel. ++49 07153 7505025

Mob ++49 0172 69 29298
E-mail: info@piztop.de

In case you require technical service for any difficulty, please specify clearly the type and nature of the problem involved, so that the most appropriate materials can be supplied.