VISMEC
LEADING INNOVATION

DRYER DRYWELL SERIES

SERVICE BOOK

DRYWELL
DW 50-80-160-250

Rev. 3.1

VISMEC adopts a policy of on-going development.

With the exception of information required by law, the general information (or diagrams)
featured in this document may depict models and/or versions different to the one you have purchased.
This will in no way alter the validity or applicability of the information provided.

CONTENTS

1. Safety rules

1. Failure to observe the basic rules of accident prevention and safety is one of the main causes of accidents when using and servicing industrial machinery.
2. Before performing any operation on the machine you must carefully read this manual, the safety rules below and the information given on the warning notices affixed to the machine. Do not allow unauthorized personnel to use, adjust or repair the machine.
3. In the design and manufacture of the machine and the writing of the instruction manual, all attempts have been made to eliminate or reduce the hazards for those who install, use or repair the machine. If you come across any further potentially hazardous conditions, please inform the manufacturer, who will take measures to remedy the problem.
4. When required, all persons working on the machine must wear protective clothing (helmets, safety footwear, gloves, earplugs or hearing defenders, safety goggles etc.) in accordance with international workplace safety standards.
5. Only persons with adequate technical training, who have a complete working knowledge of the machine, who have the necessary physical and psychological requirements for working safely on the machine and who have fully read the supplied documentation are allowed to operate the machine and perform routine maintenance tasks on it.
6. Set up footboards or platforms (in accordance with the safety regulations in force) when installing parts that cannot be reached from ground level.
7. When interfacing with other machinery, strictly observe the instructions given by the manufacturers of the other machines.
8. Check that the safety systems (guards, micro switches, sensors) are in perfect working order before starting work. Any parts that are not in perfect working order must be repaired before proceeding. It is strictly forbidden to remove safety devices, tamper with the electrical system or any of the mechanisms.
9. This machine must be used for the purpose for which it was designed. Improper use of the machine is strictly prohibited.
10. Do not touch the machine with your hands or any other parts of the body if they are wet or damp.

The manufacturer cannot be held responsible for any injury to persons or damage to property resulting from the non-observance of the above safety rules.

These rules supplement but do not replace the statutory industrial accident prevention regulations in force in the country where the machine is installed.

ALLOWED USE: Air drying of plastic pellets with the purpose of removing the moisture before the molding of plastics items. Plastic polymers similar to the one described in the inside database of the control of the unit and reported in § Errore. L'origine riferimento non è stata trovata.
NOT ALLOWED USE: Everything different from drying plastic pellets and particularly: Drying with different gas than air especially inflammable ones, drying humans. live or death animals or stocks, drying fine powder or liquid, drying vapors different from moisture, heating up flammable elements, using the air stream to blow away objects.

2. GRAPHIC SYMBOLS

DANGER
Refers to procedures or practices which, if not performed correctly, ***cause*** serious harm to health, injury or death.

WARNING
Refers to procedures or practices which, if not performed correctly, ***may cause*** serious harm to health, injury or death.

CAUTION
Refers to procedures or practices which, if not performed correctly, ***may causes*** serious damage to the system or individual components thereof.

DANGER
Danger of electrical shocks!

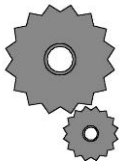
DANGER
Hot surface!

WARNING
Protective footwear must be worn!

WARNING
Protective gloves must be worn!

WARNING
Face guard must be used!

WARNING
Respiratory protection must be used!



ATTENTION
Refers to possible hazardous situations that *may cause* serious damage to the system or individual components thereof.

3. Handling

3.1. Safety rules for handling, lifting, packing, and unpacking

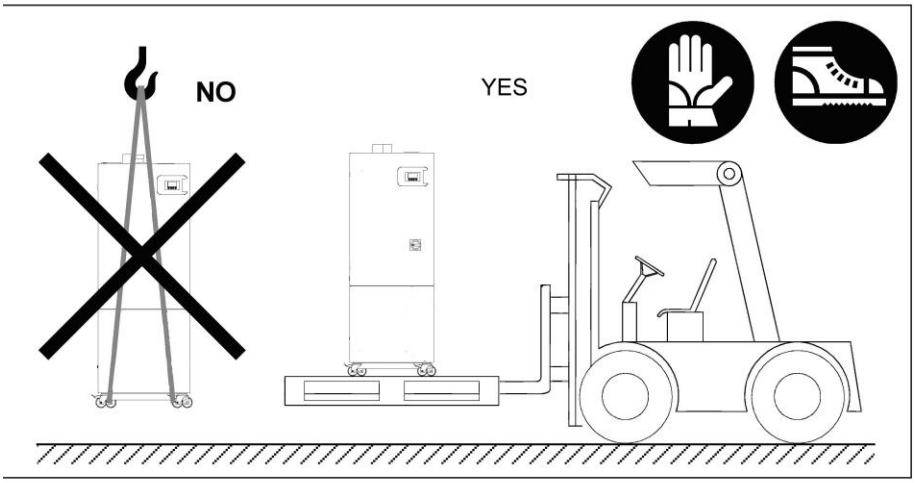
1. The machine must be handled by expert personnel in accordance with statutory health and safety regulations.
2. Use handling equipment that conforms to the safety requirements stated in directive 89/392/EU and subsequent amendments. The handling equipment be accompanied by documentation certifying its conformity to the above requirements and must be capable of bearing the weight of the machine plus its packing. Carefully follow any instructions marked on the machine packing (the weight is given on the outside of the packing). Do not use ropes or chains to harness the pack.
3. All handling operations must be performed with the machine completely empty, i.e. with no process materials or fluids inside it, and with any external support structures removed.
4. All the machine parts involved in the lifting operation are sized for handling solely the machine with no accessories installed.
5. If the machine is lifted with ropes, make sure its weight is evenly distributed over all the lifting points and that the strain on the ropes is uniform. The angle between each rope and the horizontal plane must not be less than 45°.
6. Fasten any loose parts. Make sure that the load is properly balanced and securely fastened to the handling equipment. Always proceed with the utmost caution to avoid injuring persons or damaging the machine.
7. All persons not involved in operating the means of transport must be kept at a safe distance from the moving load.
8. Position the machine on a perfectly flat surface of a suitable size that is strong enough to bear its weight.
9. After removing the packing, check that all parts of the machine are present and in good condition. If you have any doubts, do not use the machine: contact the *VISMEC* Technical Service Department or an authorized service centre. The packaging must be disposed of in accordance with binding waste disposal regulations.

CAUTION

The packing material can cause cuts or abrasions.

- **Pay special attention and always wear suitable protective equipment!**

Pay special attention and always wear suitable personal protective equipment



The machine can be shipped packed in palletisable cardboard packing, crates, cages, wooden pallets and protective plastic sheets. Keep the packing materials to protect the machine if it has to be moved again in the future; if the material is disposed of, observe the waste disposal regulations in force in the place of installation.

WARNING

Risk of machine falling during handling procedures.

- **Pay special attention and always wear suitable personal protective equipment!**
- **Do not stand near the machine when in movement.**
- **Do not use slings to lift the machine: only move the unit with a fork-lift truck or pallet truck**
- **Before moving the machine, lift it slowly a few centimetres with the fork-lift truck or pallet truck in order to find the centre of gravity.**

3.2. Environment

Use the dryer under the following environmetal conditions: otherwise, the dryer may be damaged.

Surronding air temperature	-10°C to +50°C (non-freezing)
Ambient humidity	90%RH maximum (non-condensing)
Storage temperature	-20°C to +65°C (temperature applicable for a short time, e.g. in transit)
Atmosphere	Indoors (free from corrosive gas, flamable gas, oil mist, dust and dirty)
Altitude	Maximum 1000m above the sea level for standard operation. After that derate by 3% every 500m up to 2500 (91%).
Vibration	5.9 m/s²

3.3. Power supply

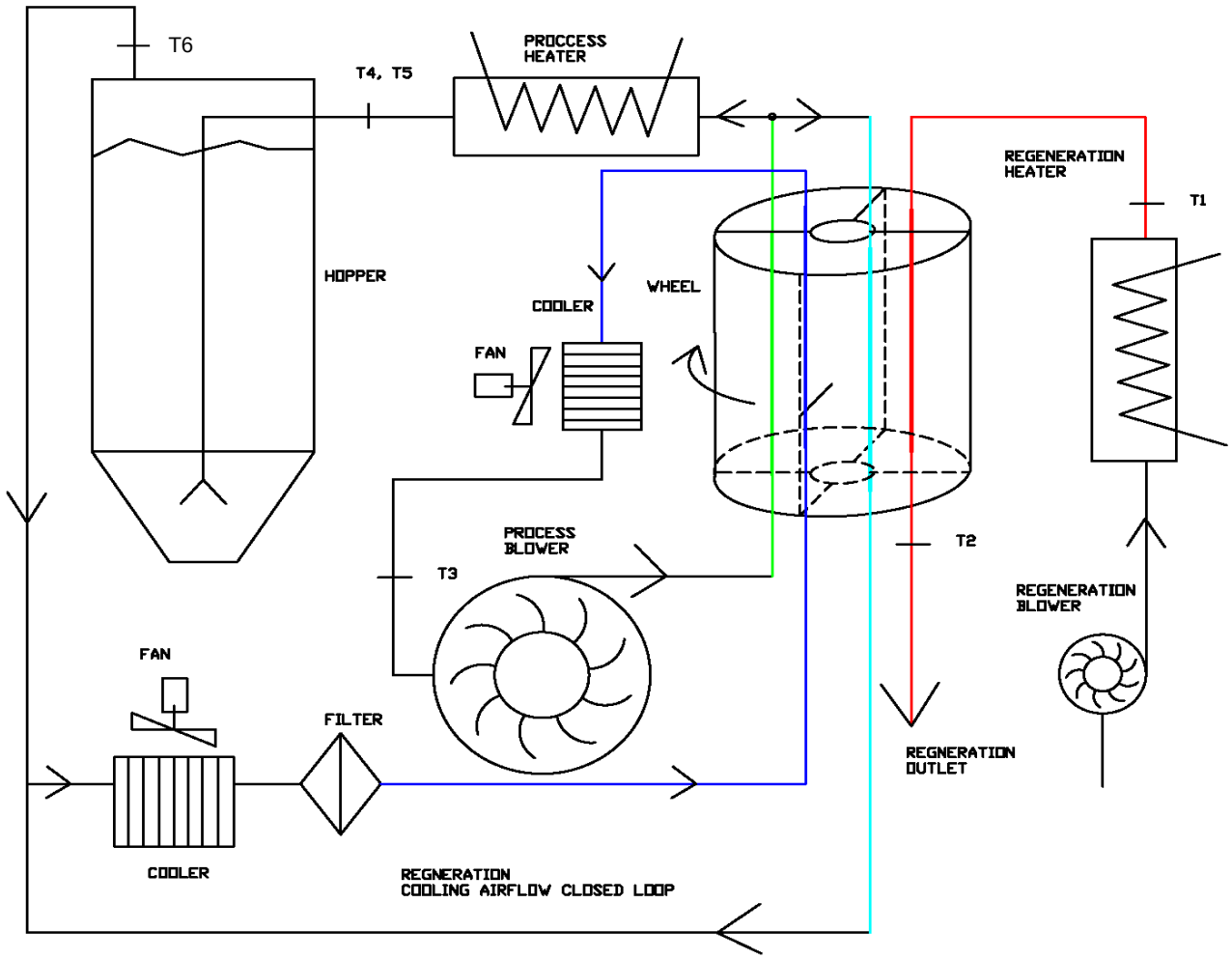
For AC power, follow the instructions in the table below:

Voltage	380V (424V in UK), steady-state voltage: 0.9 to 1.1 times the rated voltage
Frequency	50Hz, the tollerance range goes from 0.99 to 1.01 times the nominal frequency in a continuous manner; 0.98 to 1.02 times for a short period.
Harmonics	the harmonic distortion due to the sum of the harmonics from the second to the fifth that does not exceed 10% of the rms value of the total voltage between the active conductors. further distortion is allowed, for the sum of the harmonics from the sixth to the thirtieth, equal to 2% of the total rms voltage between the conductors.
Voltage unbalance	nor the negative sequence component, nor the component of zero sequence voltage phase supply must be greater than 2% of the direct sequence component of the voltage.
Voltage interruption	voltage power supply is interrupted or reduced to zero for a time not longer than 3 ms, at any instant of the power cycle with more than 1 s between two successive breaks.
Voltage dips	voltage dips do not exceed 20% of the peak voltage supply for more than one cycle. with more than 1 s between two successive dips.

4. Operation

1. In the machine there is the rotating rotor made with molecular sieves, with high moisture absorption capacity.

2. The rotor go through a rotating **process cycle** (i.e. drying cycle) and **regeneration cycle** (while one section of the rotor is doing the process cycle, the other is doing the regeneration cycle).
3. In the process cycle, the blower **S2** sends the moist air coming from the hopper to the rotor in the process stage. Here, the air is dehumidified by the molecular sieves and then sent back to the hopper, in order to remove more moisture from the plastic granules before re-entering the cycle.
4. The purpose of the regeneration cycle is to remove the moisture from the rotor that has just completed a process cycle (to prepare it for the next cycle). This cycle is in two stages:
a) **Heating stage:** in this stage, heated air is sent through the rotor to remove the moisture absorbed by the molecular sieves in the previous process cycle. b) **Cooling stage:** in this stage, cold air is sent through the rotor to bring the molecular sieves to the optimal temperature for next process stage.
5. At the end of the regeneration stage (i.e. when the rotor in the regeneration stage is ready to start another process cycle), the rotor section goes in to processing stage throught the rotation.



T1 = regeneration temperature tipical range from 65 to 170°C
T2 = regeneration outlet temperature tipical range from 45° to 110°C
T3 = process blower inlet temperature tipical range from 45° to 80°C
T4 = process temperature tipical range from 50° to 180°C
T5 = process safety temperature tipical range from 50° to 180°C
T6 = return air temperature, antistress system tipical range from ambient temperarture to 150°C

5. Installation

5.1. Installation safety rules

1. The machine must be installed by skilled personnel in compliance with binding safety and health regulations, following the instructions in this manual.
2. Make sure the installation work is performed in conditions of adequate visibility that remain constant through time; install supplementary lighting if necessary.
3. Mark off the work zone with tape and put up notices warning of the hazards in the areas where the installation work is taking place.
4. Install the machine in a place that is protected from aggressive chemicals and the weather.
5. Check that the supply voltage and frequency stated on the machine data plate correspond to those of the electricity mains and check that the mains circuit is suitably scaled for the machine maximum power input (refer to the “technical data” table and the wiring diagram).
6. The machine must be connected to an efficient earth connection (as specified in binding electrical safety regulations). You must make sure that this essential safety requirement id complied with. If you have any doubts, have the circuit thoroughly checked by a qualified electrician Electrical safety devices, suitably scaled for the total machine power, must be installed at the point of connection to the electrical power feeding line (see wiring diagram).

WARNING

Risk of serious damage to health, injury or death.

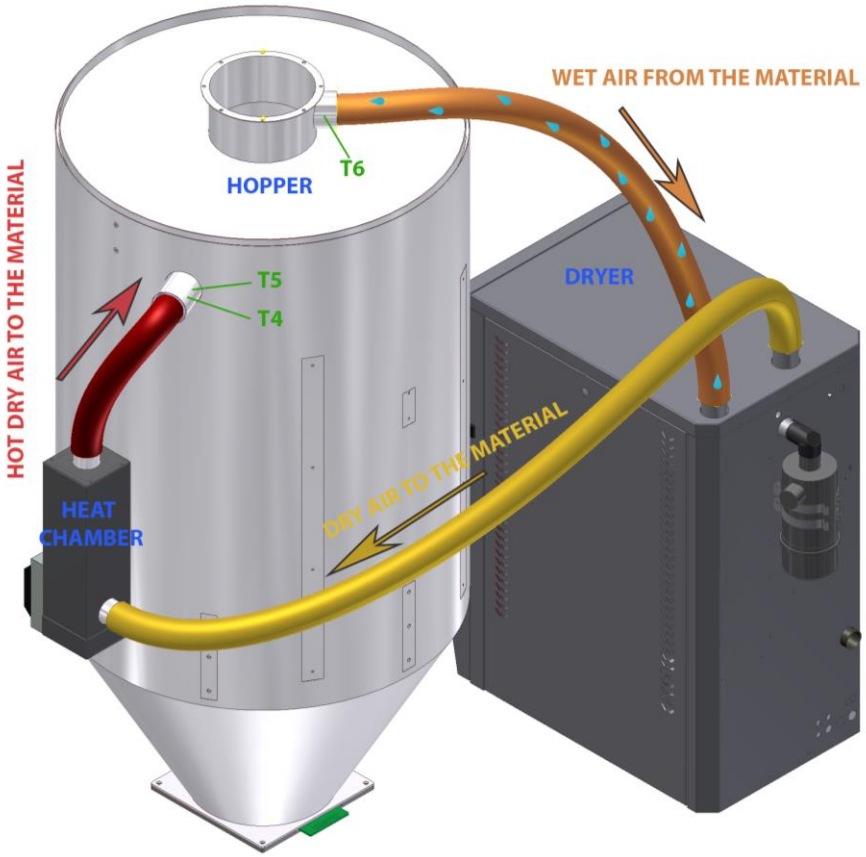
- **It is strictly forbidden to remove or modify the devices and guards fitted by the manufacturer**

It is strictly forbidden to remove or modify the safety devices and guards fitted by the manufacturer.

5.2. Positioning

1. Position the machine on a perfectly flat surface, making sure it is suitably constructed and sized in relation to the weight and dimensions of the machine and the connected structures.
2. Observe the minimum positioning clearances > 800 mm all around the unit. Failure to observe these clearances could impede installation work or prevent access to the machine for maintenance purposes.
3. The chosen installation site must offer sufficient ventilation for the machine and must not be subject to the presence of hazardous processes or possible concentrations of explosive

5.3. Hoses connection



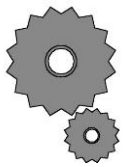
6. Regeneration discharge pipe

The regeneration outlet **4** (see **Fig.1**) is installed on the back of the dryer .If you want to make a special pipe to carry them outside the building, fasten a piping to the outlet **4** with metal clamps.

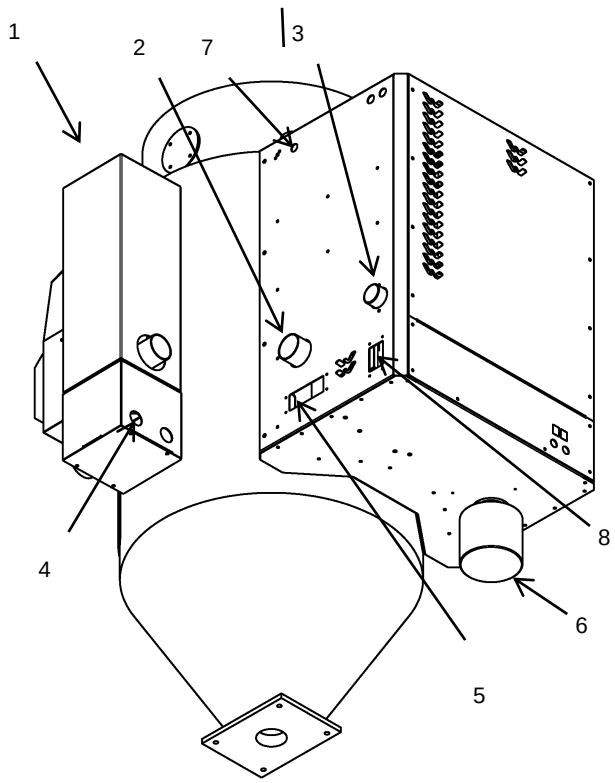
DRYPLUS 50-80 regeneration outlet diameter	38mm
DRYPLUS 160-250 regeneration outlet diameter	50mm

WARNING Burning hazardPay special attention and always wear suitable personal protective equipment!Make sure the regeneration discharge steam cannot cause injury to persons or damage things.

CAUTION Risk of damaging the machine in case of non-evacuation of the regeneration discharge steam.Use pipes resistant to working temperatures above 200°C (392°*F*).Execute the piping with a slope to prevent condensate or liquids stagnating.Make sure the regeneration discharge steam is correctly evacuated and to a suitable place.

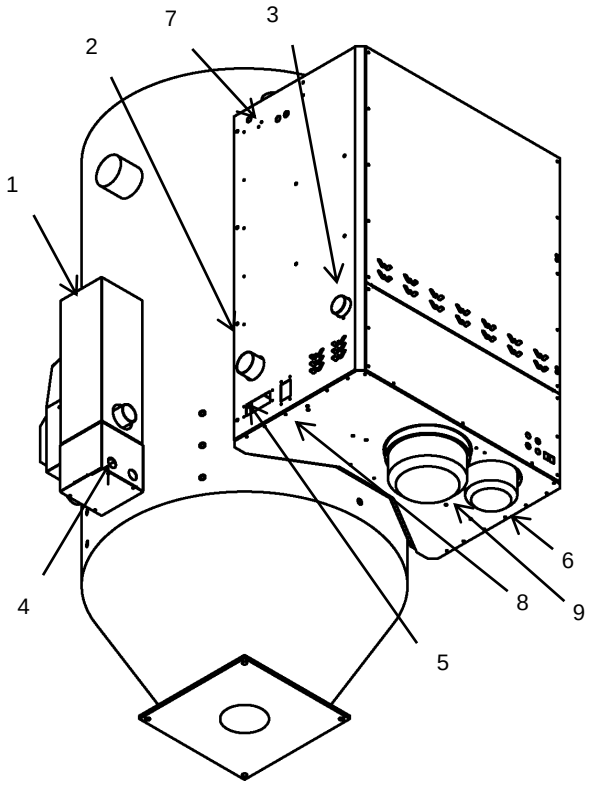


ATTENTION When carrying out the following operations, take care not to let nuts and bolts (or other items) get inside the pipes.



DW50-80

1. Heating chamber
2. process air outlet
3. regeneration outlet
4. main power connection
5. heating chamber connection
6. regeneration filter
7. connection for process temperature probe
8. connection feeding box (optional)
9. process filter



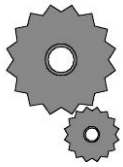
DW 160 - 250

Fig 1

6.1. Electrical connections

WARNING Electric shock hazard.

- **To supply the machine, use an electric cable of suitable cross-section for the total power of the machine.**



ATTENTION

- **Suitable protection for the total power of the machine must be installed at the point of connection to the electric mains. The use of protection fuses is recommended: follow the instructions given in the attached wiring diagram. In addition, install a main circuit breaker switch between the electricity line and the machine power supply lead; it must be installed in an easily accessible position.**

To insert the power cable, use the entry **4 if** the cable is not installed on delivery(see **Fig.1**).
The connection between the machine and the main power panel must be done following the indications given on the *wiring diagram*.

7. Control panel

The unit is equipped with a blue LCD graphic display and in the bottom part there are disposed four keys to control the dryer.

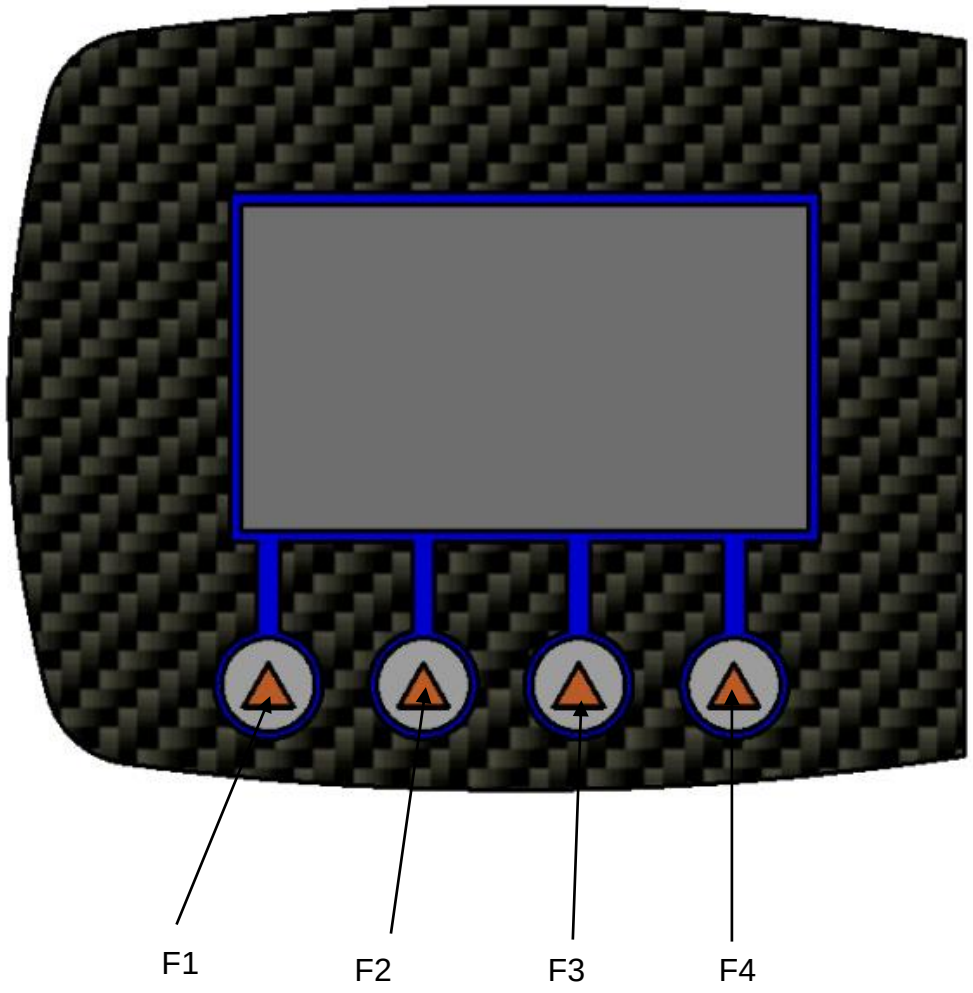


Fig 7.1

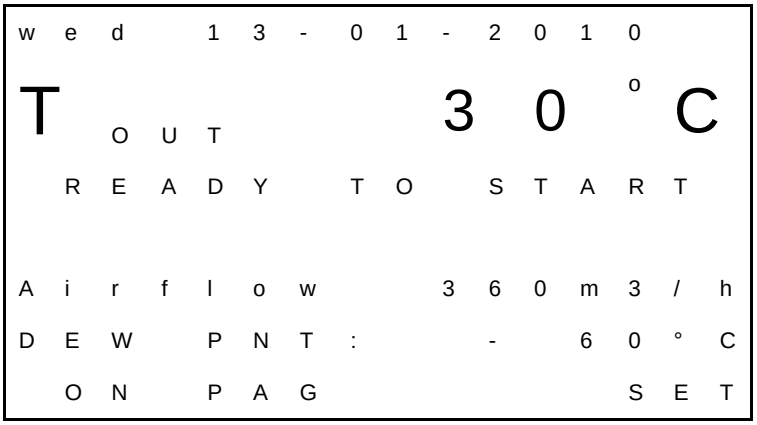
8. Routine Start Up

When the machine is switched on from the main switch on the front of the door, the panel displays the following: V 1.9: this is the software version of the display and v 2.00f this is the main board software version. Then the logo appear and after few second the boot is complete and the page are like the following

(the numerical values displayed are guideline only)

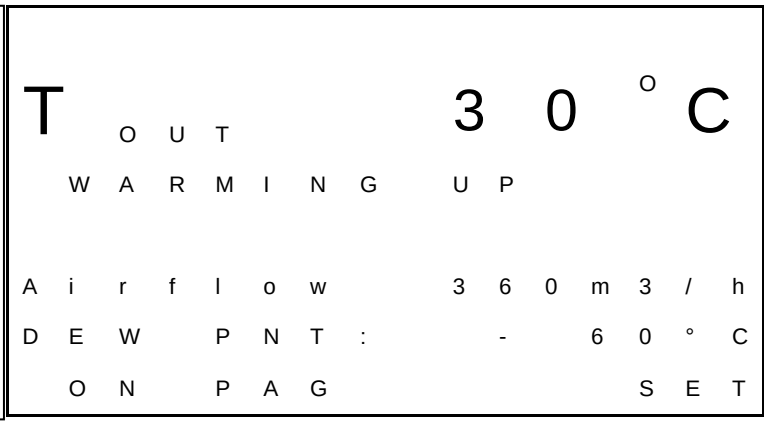
this row appear only if weekly timer option is installed

This is the main page right after when you swith ON the unit from the main switch when the machine is in MANUAL MODE



Now you can press ON (F1) and the unit starts the warming up cycle, this mean that the unit start to warming up the rotor until it reach the right temperature, after less than 5 minutes the rotor and the processing blower will start to work. This procedure is needed to assure the correct dew point level even from start

This is the page appairing when the unit is warming up, when the regeneration reach the right temperature the unit will display RUNNING



When the dryer is running, if you want to turn it off you must hold down the F1 key for at least 3 seconds.

8.1. Stopping the machine

WARNING To stop the machine in an emergency, turn the main switch 20: Fig 4 use this procedure only when strictly necessary and not as a routine operation.

Wait until the machine has cooled down to room temperature before working on internal parts.

To stop the machine proceeds as follows:

1. Press the OFF key (F1): the machine will not stop immediately, the cooling stage will commence. In this stage the regeneration blower **S1** sends air at ambient temperature into the regeneration chamber and the rotor to eliminate the heat. The machine stops after the cooling temperature is reached.

2. Turn the main switch and cut off power to the machine.

8.2. Menu entry

From the main menu keep press SET
The unit has three menus available:
-WORKING DATA it contains all the common setting to work
-MACHINE DATA it contains the basic setting of the configuration of the dryer
-REAL DATA it contains all the temperatures, life of dryer and power used.
Once you have selected the right menu through the ↑↑ (F2) and ↓↓ (F3) keys confirm with the NEXT (F1) key.
Press ESC to step back.

Once you have selected the right ROW keep press NEXT

W O R K I N G D A T A

M A C H I N E D A T A

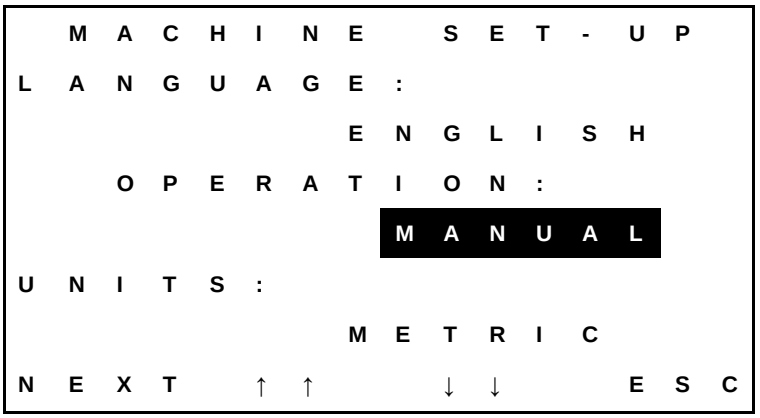
A C T U A L D A T A

N E X T ↑ ↑ ↓ ↓ E S C

8.3. How to select Manual or Advance

The unit has two mode of use MANUAL or ADVANCE.
Enter the MACHINE DATA menu and the first page is: Machine Set up page (see 9)
Press NEXT until you select MANUAL or ADVANCE
Using the ↑↑ (F2) and ↓↓ (F3) to switch between manual and advance
Confirm with NEXT then pres ESC until you go back to the main menu

Select using the UP and DN switch if you want ADVANCE or MANUAL use



8.4. Operator menu in MANUAL MODE:

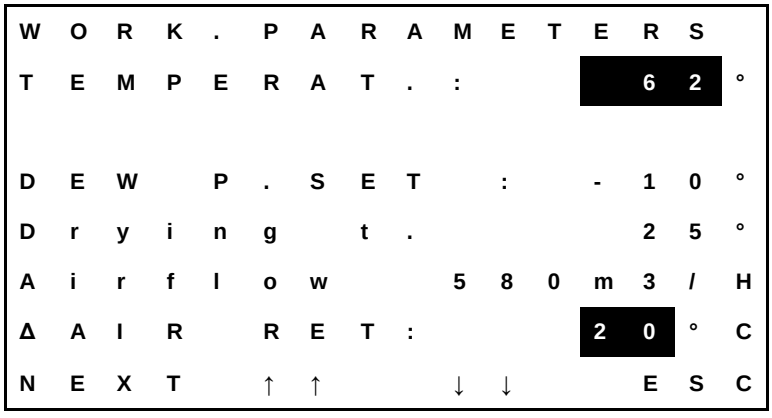
From the main menu go to the “working data” (see 8.2)

Process temperature SET

Dew point SET
When working in “manual” mode the drying time has to be settled in, if working in “advanced” mode the drying time used is the one in the database

Air flow requested

will appear only if the OPTIONAL MPM is installed see MPM description for details §10.4



NEXT to move to the next setting
↑↑ to change to the higher value
↓↓ (F3) to change to the lower value
ESC to move to the previous setting

Hopper loader configuration:
If hopper loader n° 1 is installed and activated the next page will appear with the working setting to be adjusted or accepted. The vacuum blower power can be adjusted to required level to avoid dust formation due to the excessive convey speed for the hopper loader n°1.

Switch the loader ON or OFF
This parameters rappresenting the suction time of the receiver
This paremeters rappresenting the power of the vacuum blower required for this receiver

These row will appear only if the proportional valve is installed on this loader
This rappresenting the numbers of proportional cicles inside the suction time, this increasing the omogenizing
Percentage of regrind

```
HOPP. LOADER #1
LOADER:          OFF
load time:       20 s
SUCK POW:        90 %

#regr.cycle:      2
regrind:         25 %
NEXT  ↑ ↑  ↓ ↓   ESC
```

If hopper loader n°2 is installed and activated the next page will appear with the working setting to be adjusted or accepted. The vacuum blower power can be adjusted to required level to avoid dust formation due to the excessive convey speed for the hopper loader n°2. The cleaning time appear only if the cleaning valve is installed in the machine. The cleaning valve function is on 10.2

Switch the loader ON or OFF
This parameters rappresenting the suction time of the receiver
This paremeters rappresenting the power of the vacuum blower required for this receiver

Cleaning time of the suction pipe,

These row will appear only if the proportional valve is installed on this loader
This rappresenting the numbers of proportional cicles inside the suction time, this increasing the homogenizing

```
HOPP. LOADER #2
LOADER:          OFF
load time:       30 s
SUCK POW:        90 %
purge t.:        10 s
#regr.cycle:      2
regrind:         25 %
NEXT  ↑ ↑  ↓ ↓   ESC
```

To return in the main page press NEXT or ESC until the main page appear.
In this mode the operator can set manually the Drying parameters for the most flexible usage of the unit

8.5. Operator menu in ADVANCE MODE:

From the main menu go to the “working data” menu (see 8.2)

Recipe number selected

Recipe name

When working in "manual" mode the drying time has to be setted in, if working in "advanced" mode the drying time used the one in the database

Material consuption

```
        RECIPES
MATERIAL NR      13
         ABS mold.

Drying t.  240 min
T-put:     3.1 kg/h

NEXT  ↑ ↑  ↓ ↓   ESC
```

If hopper loaders are installed and software activated the configuration pages will appear in the same way of 8.4 “hopper loader configuration” and alarm data logger.

In the ADVANCE MODE the operator needs only to select the material used through the internal recipe database and the material consumption, if is selected a throughput higher that what the dryer can give the system will give you a warning and automatically set the highest throughput

To return in the main page press NEXT or ESC until the main page appear

9. MACHINE CONFIGURATION SETUP

When you are inside the Machine SETUP you can leave this menu by pressing ESC or NEXT switch until you go back to the main page.
Move forward by pressing NEXT
Move back by pressing ESC
Change by pressing ↑↑ (F2) and ↓↓ (F3)

9.1. Machine data setup

You can select the leanguage

Here it’s possible to select the machine mode advance or manual

Here it's possible to choose the units of measure between metric or imperial

```
    MACHINE SET-UP
LANGUAGE:
                ENGLISH
      OPERATION:
                MANUAL
UNITS:
                METRIC
NEXT     ↑ ↑     ↓ ↓     ESC
```

Here you can select if you want to see or modify a material recipe, with page only appair if you are in ADVANCE mode
To modify a recipe see the chapter 8.1.1

```
MATERIALS PARAM.
MODIFY: NO




NEXT     ↑ ↑     ↓ ↓     ESC
```

The following page appear only if the weekly timer has been installed (OPTION)

In this page you set the time and date
Use the UP and DN switch to change the value and NEXT or ESC to move forward or back

This rappresenting the date set
This rappresenting the time set

```
      C L O C K   S E T - U P
h o u r :   1 2  m i N :   2 7
d a y :     1 5  m o N :   1 1
w e e t : T H U
y e a r :     7
T H U   1 5 - 1 1 - 2 0 0 7
1 2 : 2 7 : 0 2 s
N E X T   ↑ ↑   ↓ ↓   E S C
```

He re you can choise if you want to enable the auto power on and off.
This OPTION can be used to start the dryer before before the start of the shift

```
   T I M E R   S T A R T   O N
E N A B L E : Y E S
```

If you have enabled the self power on the following pages showing the day of the week and the time when you want the machine start and stop

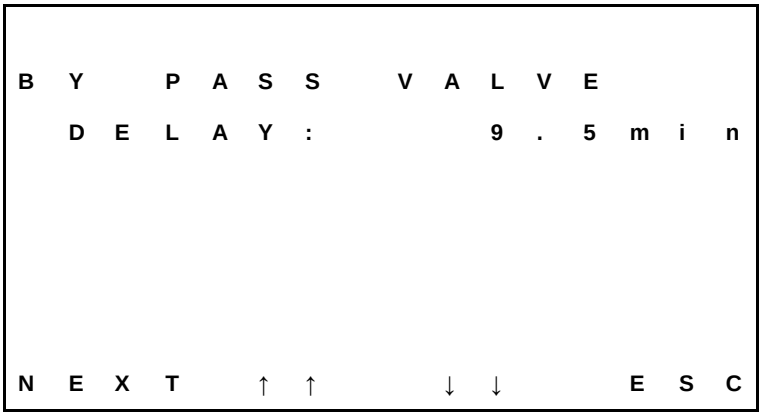
Move throught the menu with NEXt and ESC use the UP and DN key do change the time

```
M O N D A Y
          O N   :   1 0 : 0 0
          O F F :   2 0 : 0 0
T U E S D A Y
          O N   :   1 0 : 0 0
          O F F :   2 0 : 0 0

N E X T   ↑ ↑   ↓ ↓   E S C
```

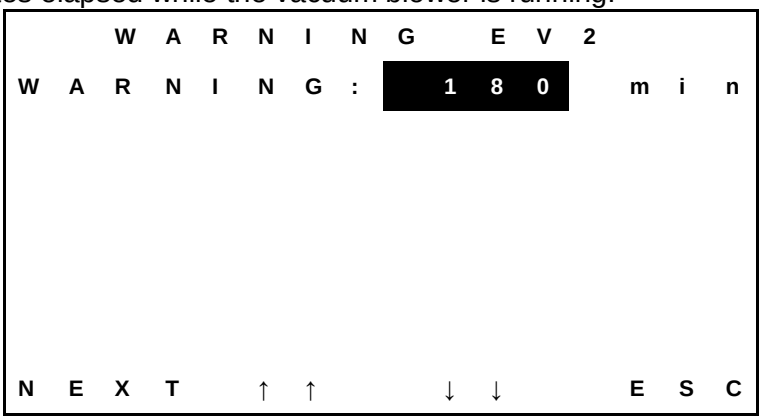
9.2. Integrated pneumatic convey system setup (Optional)

For external convey blower this is the time when the bypass valve is open before turning off the blower. This is to avoid excessive power on / off times of the blower.



If integrated vacuum convey blower is installed in the next page will be displayed the warning for EV2. The value is the minutes that will elapse before the unit will show the warning code 36 to clean the vacuum convey filter (10 at). The minutes are intended as minutes elapsed while the vacuum blower is running.

Move throught the menu with NEXT and ESC use the UP and DN key do change the value displayed

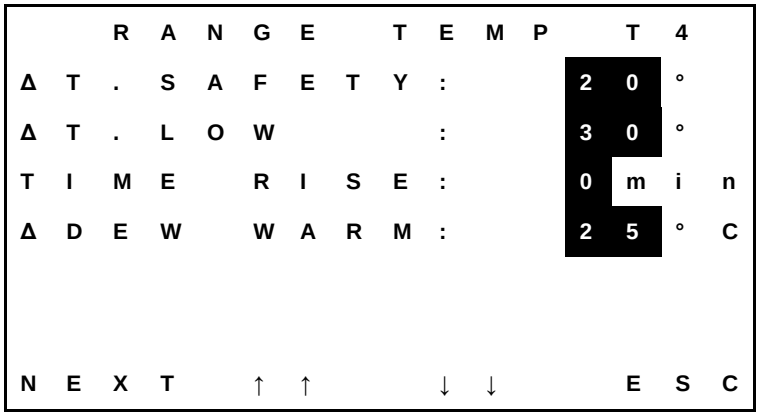


Move throught the menu with NEXt and ESC use the UP and DN key do change the value displayed

ΔT secur: Is the maximum highter deviation for process temperature the can accepted.

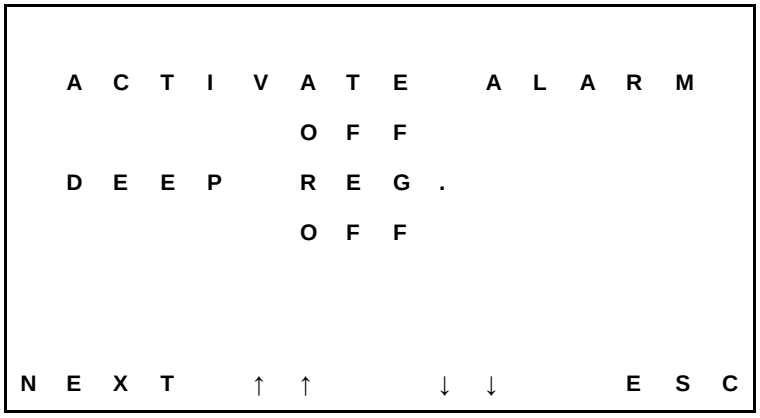
ΔT infer: Is the maximum lower deviation for process temperature that can be accepted (used to warn if the process heating system do not work)

Time rise: delay to avoid false ΔT infer warning. the heating up is slow and need some minutes to reach the process temperature
Delta dew point warning (will appear only if the OPTIONAL dew point probe is installed and activated)



ACTIVATE ALLARM: you can select OFF/ONLY ALARM/ALARm & WARNING. In ONLY ALARM mode the light blinks and the buzzer starts only for alarm status. In ALARM & WARNING, instead, light and buzzer start even warning status.

Deep regeneration: if activated does automatically every 100 worked hours a deep regeneration cycle to purge the rotor: the stepper motor is driven slower of the normal speed, the regeneration temperature grow to 185°C and the regeneration airflow is settled to maximum. This is useful to remove some contaminants form the rotor and keeping the adsorbing properties.

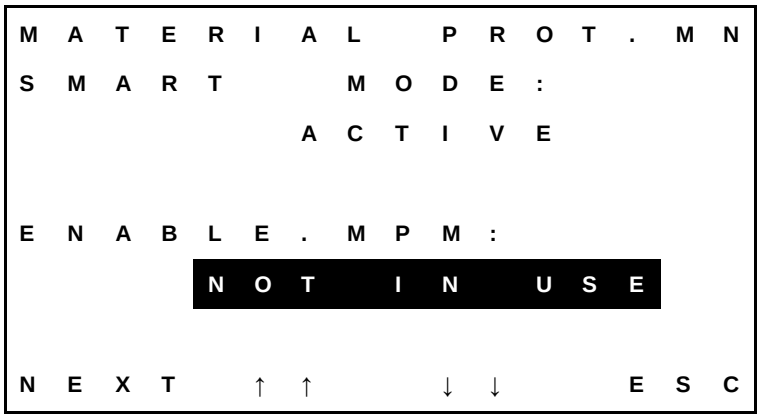


9.3. MPM

The *Material Protection Management* is a feature available if there is the drying hopper feeder (loader 1) installed in the dryer. The complete description of the feature is on 10.4

In this page there is the possibility to enable or not the material protection management. Select “NOT IN USE” to disengage the feature or:
-LOADER #1 to activate MPM by means of hopper loader n°1 flap sensor signal or IMM shot signal.
-RETURN AIR T to activate by means of a temperature probe sensor on the return air of the hopper (OPTIONAL) If this feature is activated by means of temperature, a delta temperature from the process one has to be set to activate the MPM. Normally from 20 to 60 °C of delta.

SMART MODE: if T6 is too hight it will automatically reduce process air flow so that T6 reaches the setted value



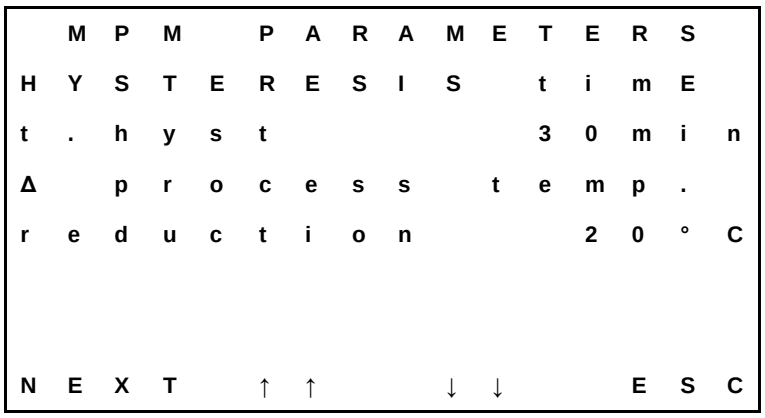
When the system is regulating the process blower by the SMART MODE it will be shows on the display like a warning.

9.3.1. MPM by return air temperature

Next page will appear only if “RETURN AIR” has been selected in the "enable MPM: row"
the MPM by return temperature monitor the temperature probe T6 of the air caming out from the hopper to the dryer, when this temperature is over the process temperature less the delta settled on "work parameters" described on 8.4 the MPM start, the result is to reduce the process airflow to the minimum and then to reduce the process temperature of the "Δ process temp. reduction" settled. If this delta is set to 0 there is no process temperature reduction. As soon as the airflow is lowered to the minimum the return air temperature measured drop down and to avoid a fast ineffective back to normal airflow and process temperature an hysteresys is provided by means of time. If hysteresis time is, for example, settled to 30 minutes and the return air is getting lower than set after 29 minutes the MPM will stop at 30th minute, if the return air temperature is getting lower than set after 31 minutes the MPM will stop immediately.

The hysteresis time is a delay time before turning back to normal process conditions after the MPM by return air start. this is provided to avoid quick start and stop of MPM .

Delta process temperature that will be lowered when the MPM by temperature start, if 0 is settled there is no variations on process temperature



MPM by retur air temperature is possible only when the smart mode is not activated

9.3.2. MPM by hopper loader #1

Next page will appear only if “LOADER #1” has been selected in the Material "enable MPM: row"

This is the time to elapse before lowering the process temperature since no charging action occurs on hopper loader 1

Delta process temperature that will be lowered after the time t1

Time to elapse after t1, before the dryer start the standby mode if still no charging action occurs on hopper loader 1

```
MPM PARAMETERS
Time to reduce
temp.t1:    30 min
Δ temperature
reduction:  20 °C
Time to standby
proc.flow: 120 min
NEXT  ↑ ↑  ↓ ↓  ESC
```

SLS *Safety Loading System* is a feature available only if there is installed the Hopper loader 1 or the Hopper loader 2 or a bottom discharge valve on the hopper. It works enabling the suction on hopper loader (2) on the machine or opening the discharge hopper valve only after the drying time. The page with the parameters papers only if one of the components is installed. The complete description of the feature is on 10.5. Every time a material is changed the dryer must be switched off by the main switch to start from zero the drying time.

Activation line for the SLS

Appear only if present hopper valve (OPTIONAL) Default: 99

If the dryer is in standby mode for more than dead time the next start will be considered a new drying phase and the drying time start again

```
 SAFETY LOADING
 SYSTEM SLS
Enable      NO
Hopper loader #1
 max: XX cycle/h

Dead t.     240 min
NEXT  ↑ ↑  ↓ ↓  ESC
```

When the SLS finish the reverse counter and so open the "hopper valve" the system check the number of loading cycle of hopper loader #1 and if the number is bigger of the value setted for the hour the hopper valve is closed and warning "over throughput" is display.

If in the unit is installed the vacuum filter automatic cleaning feature (optional), the following screen appear instead of the “WARNING EV2”. The cleaning of the filter will be by means of a compress air stream managed by an electro valve that will blow the dust attached to the filtering web down to the tank. The “pause” value is the time from one cleaning phase and another one and are intended as minutes of real working of the vacuum blower.

Pause from one cleaning and another

Number of the cleaning shot for the cleaning

Time of switching ON the compressed air valve

Time of switching OFF the valve to allow the compressed air tank filled

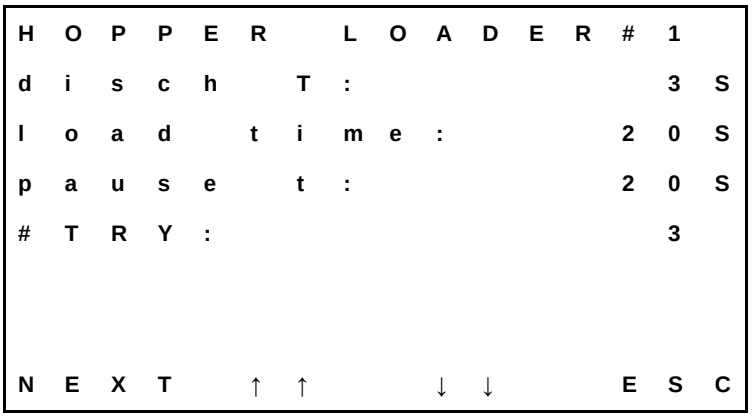
```
FILTER CLEANING
PAUSE:          90 min
PULSE NUM:       2
t.ON:            2  s
t.OFF:           5  s


NEXT  ↑ ↑  ↓ ↓  ESC
```

If you have installed the hopper loader you will see the hopper loader setup page with the hopper loader parameters, the hopper loader #1 is the hopper loader on the transforming machine, the hopper loader #2 is the hopper loader on the processing hopper.

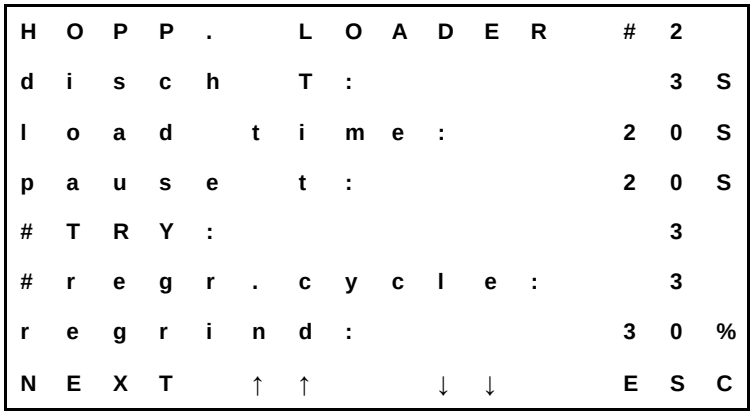
In this page you set the receiver parameters on the IMM

This paremeters rappresenting the waiting time during the material discharge
This parameters rappresenting the suction time of the receiver
This is the waiting time between the discarging of the material and and the new cycle
Numbers of suctions cycle before declare the missing material alarm, if set 0 the unit doesn't stop on the alarm



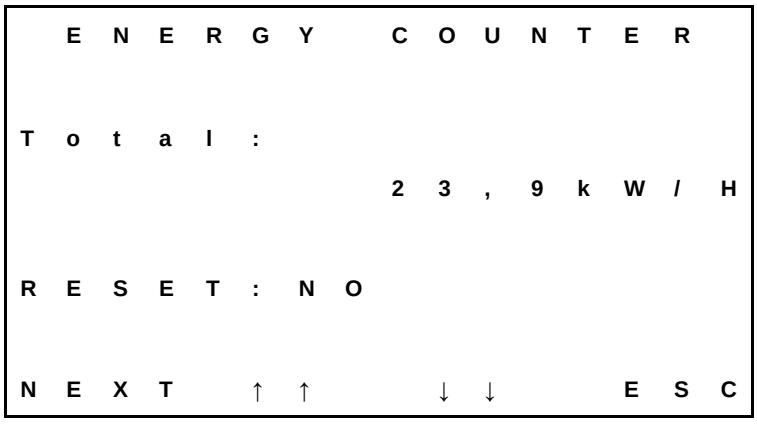
In this page you set the receiver parameters on the hopper
This paremeters rappresenting the waiting time during the material discharge
This parameters rappresenting the suction time of the receiver
This is the waiting time between the discarging of the material and and the new cycle
Numbers of suctions cycle before declare the missing material alarm, if set 0 the unit doesn't stop on the alarm

This rappresenting the numbers of proportional cicles inside the suction time, this increasing the homogenizing
Percentage of regrind



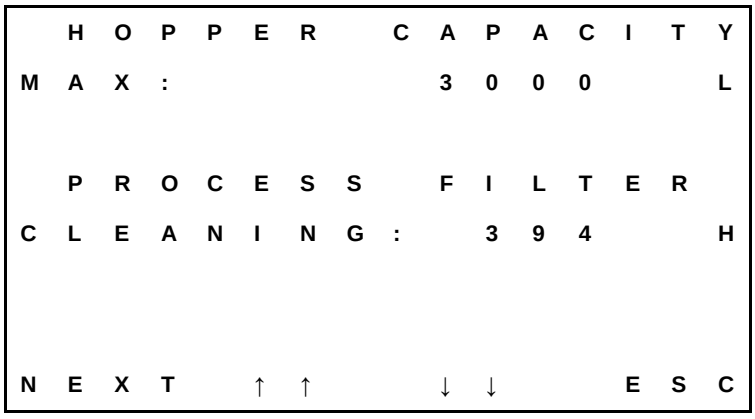
In this page you check the total energy used.

Select "YES" if you want reset the energy counter.



Here you have to set the hopper size connected to the dryer

Here you set the effective working hours of the dryer before a message to clean the filter appair



The next page will appear only if the HALO system (optional) is present.

Here you could see the total throughput material measures by the HALO.

Here you can reset the total value.

```
P R O D U C T I O N

t o t a l :                    0    k g

R E S E T :                  N O

N E X T    ↑ ↑      ↓ ↓      E S C
```

In this page you can set the two password to move to the next one keep press the NEXT switch
Machine set up password

Operator set up password

IF PASSOWORD ARE 555 NO PASSWORD IS REQUIRED TO ENTER THE MENU

```
M A C H I N E   P A S S W O R D
I N S E R T :          5 5 5

W O R K                P A S S W O R D
I N S E R T :          5 5 5

N E X T    ↑ ↑      ↓ ↓      E S C
```

Next page is the registry of alarms, there are 30 positions in FIFO mode and appear the error code and how much time ago occurred, time is in minutes and seconds

four minutes and 50 seconds ago alarm Te R1 occurred

```
E R R .   L O G   0 0 0 0 : 0 0
0 1 _ T e   R 1   0 0 0 4 : 5 0
0 2 _ _ _ _ _ _ _ _ _ _ _ _ _ _
0 3 _ _ _ _ _ _ _ _ _ _ _ _ _ _
0 4 _ _ _ _ _ _ _ _ _ _ _ _ _ _
0 5 _ _ _ _ _ _ _ _ _ _ _ _ _ _
0 6 _ _ _ _ _ _ _ _ _ _ _ _ _ _
N E X T    ↑ ↑      ↓ ↓      E S C
```

next page gives the chance to erase the error logger file

Select “YES” if you want to erase the error logger

```
E R R .   L O G   0 0 0 0 : 0 0

R E S E T :          N O

N E X T    ↑ ↑      ↓ ↓      E S C
```

9.4. ACTUAL DATA

From the main menu go to the “actual data” menu (see 8.2)
First page there is all the power used for the component of the dryer, the percentage of usage and the power actual used. last row is the total. Rotor dryer has the advantage that the consumption is continuous and does not change during the time for cycles. The power is not measured by means of sensors but is only calculating based on stored data about the elements of the dryers. The actual power can vary especially in case of voltage deviation from standard.

R1 Regeneration heater power
R2 process heater power
S1 Regeneration blower power
S2 Process heater power
S3 Vacuum blower power
Total power used by the dryer

```
          U S E D    P O W E R
R 1 :     2 0 %        2 8 0 0 W
R 2 :     5 0 %    1 1 0 0 0 W
S 1 :     7 4 %        2 0 0 W
S 2 :     6 8 %        4 0 8 0 W
S 3 :                  0 W
T o t a l :        1 7 9 8 0 W
```

next page show all the counter

Life of the dryer, this is the total time elapsed with the dryer running
This is the time elapsed from the last cleaning/change of process filter
This is how many time the dryer has been switched off without allowing the cooling
Rotor identification type

```
T I M E

w o r k :          0 0 0 0 9 0 h
f i l t :          0 0 0 0 9 0 h
w r o n g   s t o p : 0 0 0 3
R o t . s e r # :    A 3 1 2 7 P
```

next page show all the live data of the dryer.

Working parameters page
T1 Regeneration temperature inlet
T2 Regeneration temperature outlet
T3 Processing blower temperature inlet
T4 Processing temperature
T5 Processing safty temperature
T6 return air temperature (optional)

IN4 process blower speed rpm/10
IN5 vacuum blower speed rpm/10*

*only if installed & brushless type

```
O F F                  T 3 : 1 2 9 °
                       T 4 : 1 2 9 °
s t p                  T 5 : 1 2 9 °
T 1 : 1 2 9 °          T 6 : 1 2 9 °
T 2 : 1 2 9 °          I G : - 4 9 °

i n 4 :   3 5 6  i n 5 :     1 2 3
```

The next two pages will appear only if the HALO system (optional) is present.

Actual: istant net value.

Batch: charge value measured in the previous cycle

Total: total value measured for all cycles

```
      H A L O   M O N I T O R
A c t u a l :       0 . 4 5 8 k g
B a t c h   :       0 . 0 0 0 k g
T o t a l   :               k g


N E X T   ↑ ↑   ↓ ↓   E S C
```

Average value calculated from the weighs

Setted airflow value

```
      P R O D U C T I V I T Y

A v e r a g e   t h r o u g h -
p u t :             0 . 0 k g / h
D r y e r   a i r f l o w :
s e t :             6 2 9 m 3 / h


N E X T   ↑ ↑   ↓ ↓   E S C
```

In ADVANCE MODE, once you have set the correct material/recipe, the dryer calculates the correct airflow from the material's throughput indicated by the halo; then it will auto-set itself to optimize the drying.

Recipe Set Up

Go to inside the "MACHINE DATA" and first page is the Machine Setup; press next until you reach the page MATERIALS PARAM. Select YES then press NEXT, the following screen will appear:

Here you have to choose the material recipe

```
S E L E C T   M A T E R I A L
N .   M A T E R I A L   1 5
N A M E :     A B S / P C


N E X T   ↑ ↑   ↓ ↓   E S C
```

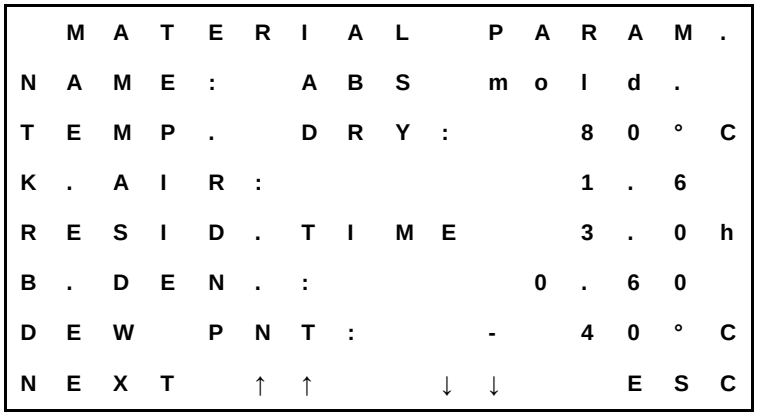
9.5. The machine recipe database is divided in two areas:

From the number 1st to the number 30th are fee location which mean you can store or customize 30 recipes
From the 31st to the 79th are already memorized all the main plastic resin with the drying parameters suggested by the resin producer, these 49 recipes can not be changed but eventually can be copied in one of the 30 free location and modified

Material name

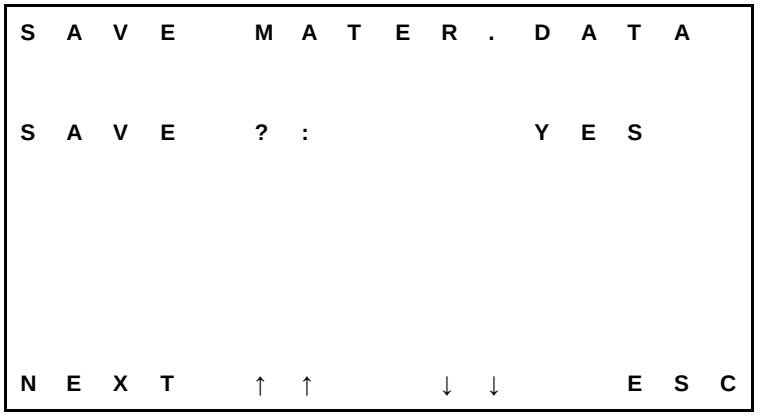
Process drying temperature
K air is to calculate the air flow m3/kg, it represent the volume of air needed to dry 1 kg of plastic; normal values range from 1,2 to 3
The resident time to calculate the hopper size

Bulk density of the material kg/liter, if unknown can be estimated by multiply solid density x 0,6
Dew point recommended for the material

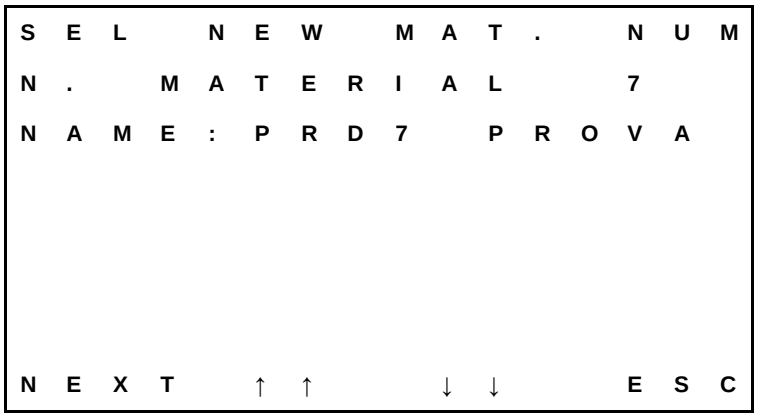


When you are inside of the selected recipe page keep pressing NEXT until the end of the page

Select YES to copy the selected recipe in a new location



Select which recipe number you want to copy the recipe



Once you have copied the recipe in the new memory location you are able to change or customize.

IMPORTANT:
Be aware that, standard recipes stored in the database are for reference only, user has to write **his own recipes according to specific material datasheet to assure correct drying. Due to the enormous number of polymers and blends is not possible to have a universal recipe so specific recipe have to be settled up. Existing database has to be intended as a "starting point" for general materials and not valid in all the cases.**

10. SPECIAL FEATURES and OPTIONS

The dryer can be equipped with components that allow to work with additional advanced features. A stand alone application could be as in the figure 10.1. The dryer 3 works with a hopper 4 and control the drying hopper loader 1 to suck the material from a bulk container 7. On the material discharge of the hopper 8 the dried plastics pellets is conveyed through a pipe 10 to the machine hopper loader 2 which fills a small maintenance hopper on the IMM or extruder 6. A proportional valve 9 can be installed to mix the main material with, for example, a just regrinded material from the grinder 12.

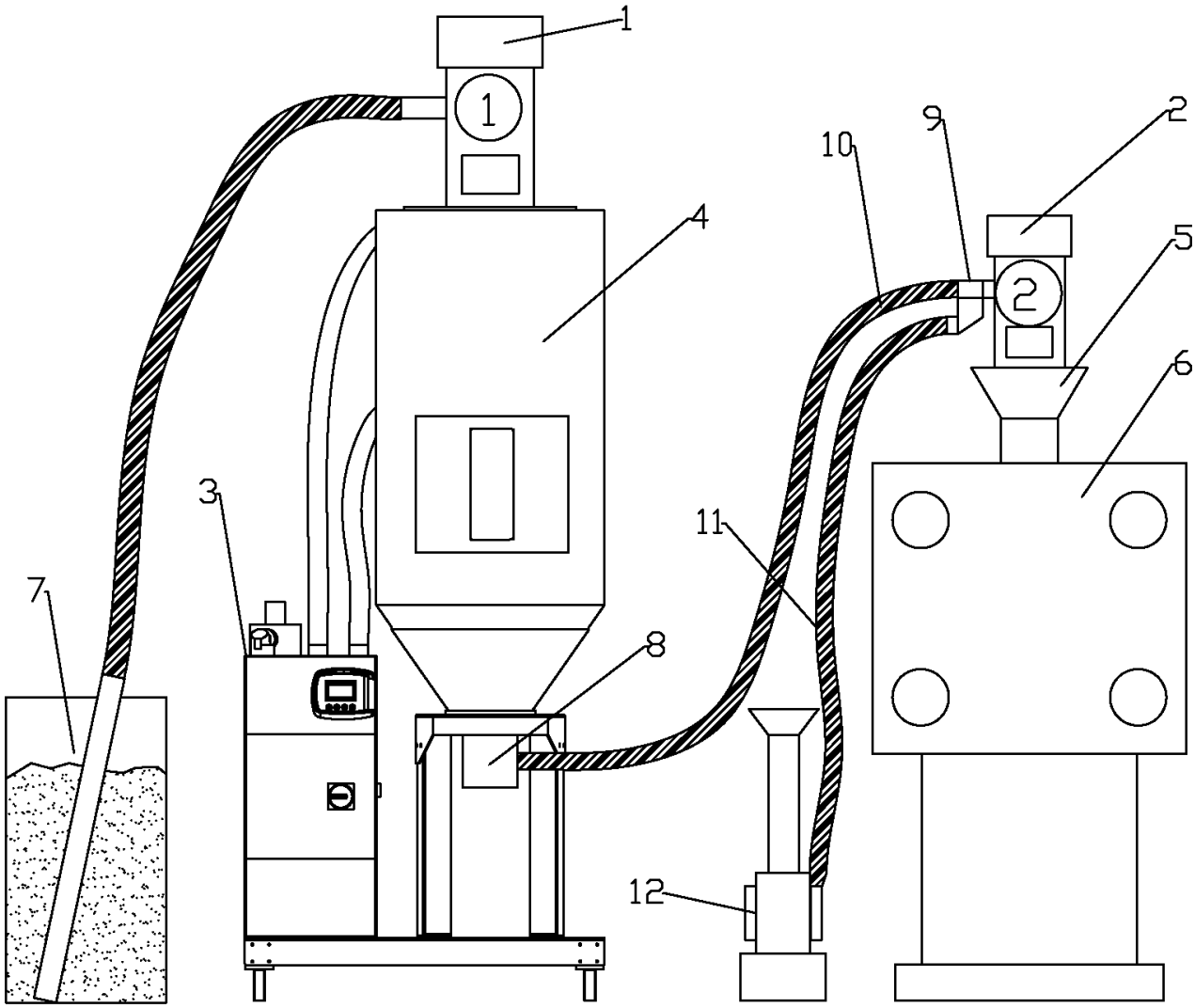


Fig. 10.1

10.1. Proportional Valve

The proportional valve, item 9 in fig. 10.1, is a special optional motorized valve controlled by the dryer 3 and that's allow to mix in the desired percentage two different material. The proportion between the two materials is reach dividing to suction time trough pipe 10 and 11 according to the percentage required. For example if the total suction time is 20 seconds and the regrind percentage is 25% the suction time will be 5 second for the regrind and 15 second for the main material. Additionally can be used more than a proportional cycle for each charge, for example with 2 cycle the regrind sucking time will be 2,5 second than 1,7 second main material then 2,5 second regrind than last 7,5 second of main material. Increasing the cycle time will increase also the homogeneity of the two material but will lower the convey efficiency so it's important to regulate the cycle number just the minimum value needed.
The proportional valve is normally installed in the IMM hopper loader (#2) because it's used to recycle the just made regrind material from the sprue. In case the grinded material is not used just as produced but same hour later we recommend to install the proportional valve in the drying hopper loader to allow the grinded material to be dried again since the moisture level inside of it has increased. This must be done by the qualified assistance service because the software configuration is different if installed on hopper loader 1 or 2. For more information about, more accurate time scale and procedures, please consult the plastic material producer datasheet in the "drying" section.

10.2. Line Cleaning Valve

The line cleaning valve is a special optional motorized valve that's used to keep empty the pipe 10 that charge the hopper loader 2 on the IMM or extruder machine. The purpose of keeping empty of granular material inside the pipe 10 is to avoid any contamination or cooling down inside the pipe between two charges of the hopper loader, additionally the pneumatic convey is better because the fluidification of the material in the air stream is more constant. The dryer control manage one cleaning valve trough the electronic board output O6 but the installation, if not ordered in the supply, must be done by a qualified assistance service because also the software has to be configurated.

Alternatively of the line cleaning valve the dryer could manage a discharge hopper valve installed before the suction valve 8. This valve close the bottom discharge part of the hopper to avoid the granular material to fall down in the suction valve 8 before the drying time is elapsed but this works only if the SLS system 10.5 is enabled.

10.3. Dew point sensor

An optional 4-20ma dew point sensor transmitter can be installed in the dryer to monitor the value of dew point of the process air and to give out a warning if the real dew point is not within the set. When the probe is installed the dryer use the reading to feedback the dew point regulation system to accurate regulate it to the wanted value. On the display will be shown the read value when the dryer is working.
To work properly the dew point transmitter has to be installed by qualified personnel, please contact your service department to have it installed aftermarket.

10.4. MPM

The Material Protection Management is a special feature that allow to protect the material against over drying and thermal degradation if the production of the IMM or extruder is stopped for long time. There are two different sistem:
1)By hopper loader cycles counting
To work, it need the presence of the hopper loader (#1) on the drying hopper because controlling the loading frequency is possible to understand if there is a stop in dried plastic material consumption. The protection procedure provide two step, first lowering the process temperature and then switching the dryer in standby mode until next charge of hopper loader #1 occur. When starting a new drying, the system wait for the drying time settled in the SLS parameters and after this it monitor the charging frequency of hopper loader, if no charging occurs, the system start the MPM procedure.
If this system is used in combination with the SLS and the “advanced” working mode, the best drying condition is provided for the plastic material.
The parameters that needs to be settled are:
t1: is the maximum time from one charge and the other of the hopper loader #1 that during normal production conditions elapse, if happen that there is more time with no charging action it means that the throughput has lowered or stopped and so the dryer start the first protection action. Lowering the process temperature.
Δ temperature: is the delta of temperature to reduce the process temperature after that the t1 is elapsed
Time to standby: is the time that has to elapse before to switch the dryer in standby mode
2) By return air temperture.
In this system an additional temperature probe T6 is installed nearby the hopper in the air return pipe. The dryer work with norma operation settled parameters until the return air temperature T6 reach the set and then engage the MPM reducing the airflow to a minimum value and lowering the process temperature by the settled value.
the parameters that needs to be settled are:
in Operator menu, the Δ air ret which is the set of the difference from process for T6 to start MPM by temperature
in Machine menu, Hysteresis time is a delay before getting back to normal process condition and is meant to avoid high changing frequency; delta temperature reduction is the negative delta in process temperature settled when MPM is active.

10.5. SLS

The Safety Loading System is a special feature that assures the material to be completely dried before it can be used. The working principle is different depending from the configuration of the dryer:

- machine hopper loader #2 = present: the SLS block the machine hopper loader until the initial drying time is elapsed to avoid to charge wet material.
- hopper discharge valve = present: the SLS block the hopper discharge valve closed until the initial drying time is elapsed to avoid to charge wet material. Instead of the hopper valve the coming out signal from O6 in the electronic board could be used to give an advice to the central loading system.
- Machine hopper loader #2 & hopper discharge valve or line cleaning valve = present the SLS block the machine hopper loader and the valve until the initial drying time is elapsed to avoid to charge wet material.

The drying time is settled in different way depending if the dryer is working in manual mode or advanced mode:

- manual mode: the software require to set the drying time manually
- advanced mode. the drying time is taken from the internal database

When the SLS is active there is the possibility to reset the feature, just press the “RES” key (F3 of figure 7.1) and insert the machine password (default 111), this can be useful for example a temporary electric power missing.

11. Maintenance

11.1. Safety rules for adjustment, servicing and troubleshooting procedures

1. All adjustment, maintenance and troubleshooting work must be performed by specialized personnel. Specialized personnel are construed as persons who, because of their education, experience, training, and specific knowledge of accident prevention regulations and first aid, have been authorized to carry out checking and preventive maintenance work. These personnel must be provided with all the tools and equipment specified in both local and international accident prevention regulations.
2. Thorough inspections, performed at regular intervals, are required to prevent breakdowns and guarantee that the machine works at maximum efficiency through the course of time.
3. Unless expressly stated otherwise, all maintenance and adjustment work on the machine, or parts of it must be performed with the machine completely isolated from the electricity, compressed air and water supply sources.
4. Cordon off the work zone with tape and put up notices warning of the hazards in the areas where the adjustment, maintenance or troubleshooting work is taking place.
5. Wait until the machine and the parts that must be approached have cooled down to ambient temperature before performing any maintenance tasks. Drain off and remove any liquids inside the machine to prevent them from coming into contact with live electrical parts during the maintenance work.
6. To avoid injuring persons or damaging objects, make sure that no solids, liquids or gases are discharged or disposed of in the environment. Have these substances removed in suitable containers, in accordance with the binding waste disposal regulations in the place of installation.
7. If any breakdowns occur that the operator is unable to remedy, switch off the machine and contact the VISMEC Technical Service Department or an authorized service centre.
8. On completing the maintenance work, switch on the machine and perform the operational checks, taking all the necessary precautions. The above-indicated precautions must not be waived until the maintenance work is fully completed.
9. Take special care to ensure that the maintenance work does not involve other nearby machines which could represent a potential source of danger. Scheduled maintenance must be performed on a regular basis to guarantee the maximum efficiency of the machine.

SCHEDULED MAINTENANCE	
Every day	Clean the process and regeneration filters: follow the instructions in *Par.11.3*
Every month	Clean the outer surfaces of the cooling elements and the inlet air slot. follow the instructions in *Par.11.4*
Every 3 months	Check the state of all the pipes, wiring and gears inside the machine.
Every 6 months	Check and if necessary replace all the machine filters.
	Check the tightness of the electric terminals.
Every 12 months	Have the Dew Point measurement probe calibrated (where installed): contact the *VISMEC* Technical Assistance Service.

11.2. Particular checks in case of molding problems

If molding problems occur and the machine does not signal any faults, proceed with the following checks:

1. Make sure the process air temperature set on the parameter, (see *Par.8.4 or 8.5*) is that recommended by the producer of the material.
2. Check that the plastic material stays in the hopper long enough to be completely dried.
3. Check the cleanness of the filters inside the machine.
4. Check the good condition of all the process air pipes and cooling pipes.
5. Check that the rotor is turning regularly.
6. Check the efficiency of the heating resistances and the relevant contactors even with an ampere meter.

11.3. Cleaning filters

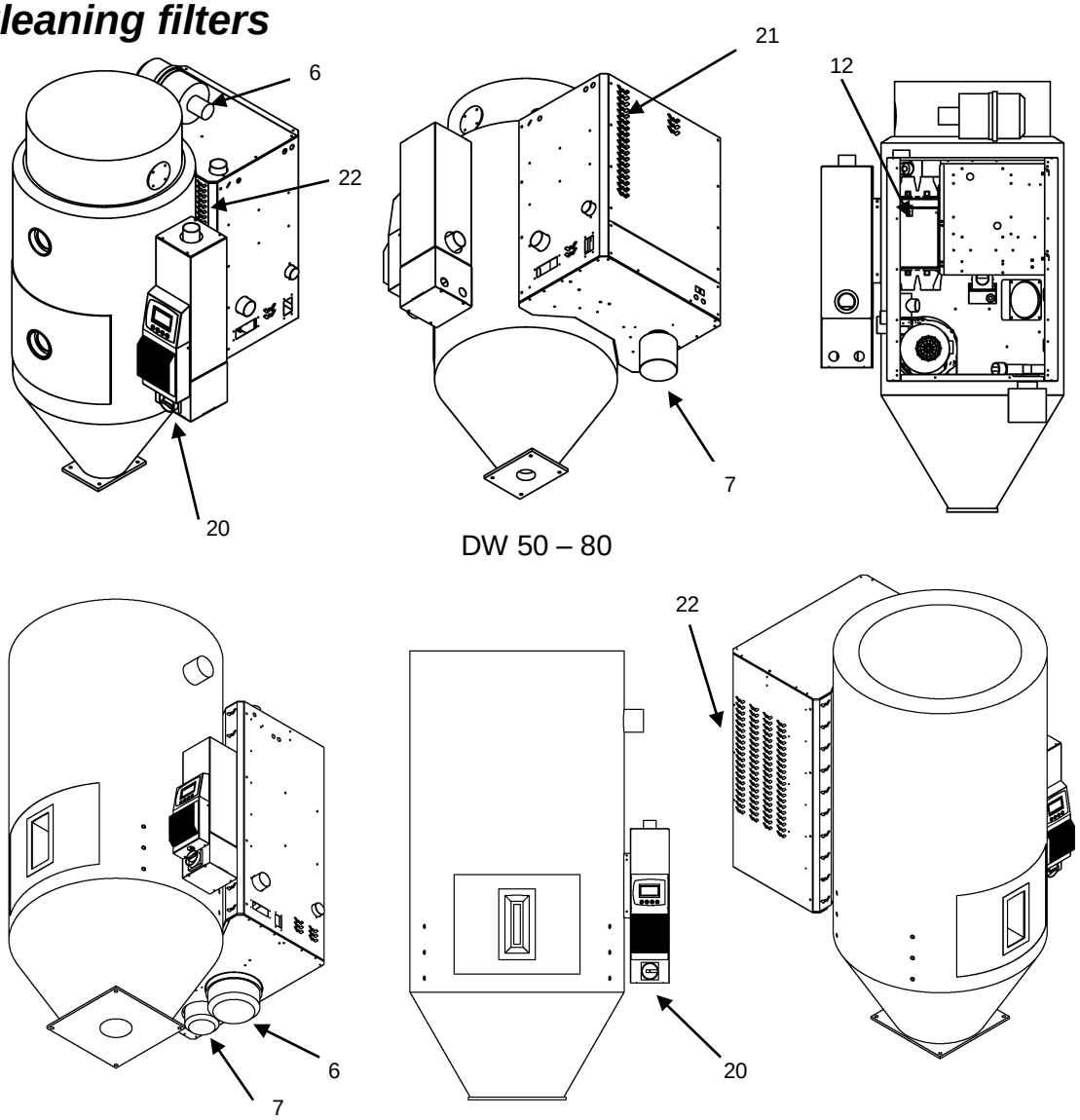


Fig 3

6. Process filter
7. Regeneration filter cartridge
12. rotor
20. main switch
21. cooling air inlets slots
22. cooling air outlet slots

WARNING Burning hazard.
Wait until the machine has cooled down to room temperature before working on internal parts.

Pay special attention and always wear suitable personal protective equipment!

CAUTION Risk of damaging the machine.
Replace the filters immediately if worn or damaged: using the machine with damaged filters will result in serious damage.

To clean the filters the dryer must be stopped and cooled down. In case it's working push the "off" key in the bottom right part of the display and wait until the dryer complete the cooling phase. Turn off the main switch 20. The filter are located in the unit depending on the dryer size as shown in the fig 3.
To clean the process filter 6 unscrew the knob screw in the bottom part of it and remove the metallic cover. Unscrew also the second knob screw that block the filter cartridge and finally remove the cartridge pulling it out. Clean the filter and inspect it for damage, in case it appear broken or could not be effective cleaned, replace with a new one. Reassembly the filter taking care of the sealing elements.
To clean the regeneration filter cartridge 7:
DW 50 - 80 unscrew the screw-band in the bottom part, remove the cartridge pulling it up and clean it.
DW 160 – 250 unscrew the knob screw in the bottom part of it and remove the metallic cover. Unscrew also the second knob screw that block the filter cartridge and finally remove the cartridge pulling it out. Clean the filter with a vacuum cleaner.
Inspect the filter for damage, in case it appear broken or could not be effective cleaned, replace with a new one and clean.
Never use **compressed air to clean** the filters.
Be aware that using the dryer without filters may result in serious damage and burning possibility.
NO WARRANTY CLAIM FOR DRYER DAMAGED BY RUNNING WITHOUT FILTERS.

11.4. Cleaning the cooling elements

WARNING Electric shock hazard.
Make sure there is no live equipment nearby.
CAUTION Risk of damaging the machine.

When carrying out the following operations, take care not to let nuts and bolts (or other items) accidentally get into the battery compartment: an event of this nature can damage the machine and impair its operation.

CAUTION Fan blades are present in the cooling side of the dryer; always be sure the machine is turned off before to open the frame

Clean the cooling air inlet slots 21 and the air outlet slots 22 to remove any obstacle to the free flow of air.
Open the left side panel of the dryer turning 90° with a screwdriver in the locking 24 and remove the panel. Clean from dust and any other dirt material that may obstacle the flow of air. Check the fan blades to be cleaned and if they can move free.
Check the cooling aluminum pipes for leakage, corrosion or squeezing and if not perfect have it changed by assistance service.

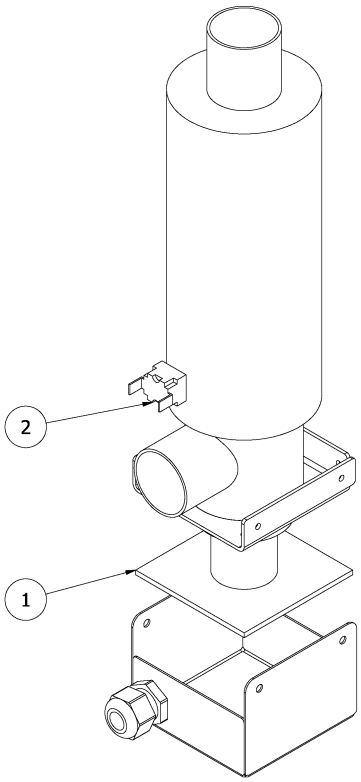
11.5.Alarm & Warning list & troubleshooting

An **Alarm** is a fault of the machine that can cause injure to the machine itself or the operator so when occurring it will block all the device function by means of the cutting of supply power to all internal devices except for the main control and display.
A **Warning** is an event that may compromise machine functionality but it does not represent a kind of danger so the machine will continue to work, only on the display will be present the warning message until full functionality is recovered.

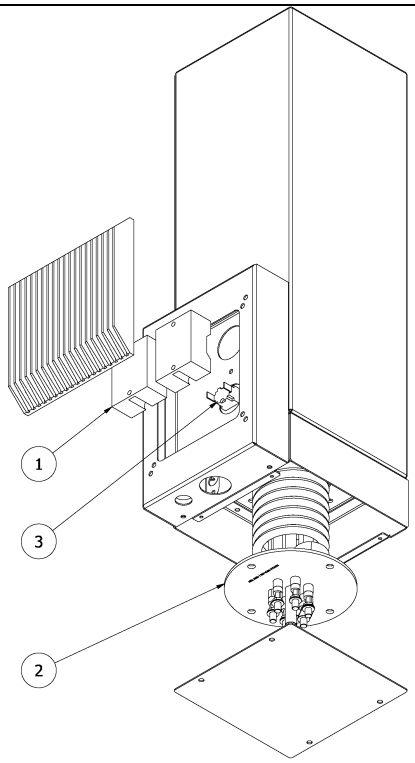
ALARM	CAUSE	PROBLEM SOLVING
KEYBOARD ERROR	Problem with the keyboard	Check the RJ45 cable
TX SENSOR BROKEN	A temperature probe sensor is broken or disconnected. X stand for id number of the broken sensor.	Check the sensor's connection on the board; make a visual check of the sensor and its cable if it might be damaged.
01 - ALARM HEATING	The real process temperature is higher than the security one settled by means of the security delta one. The differential between T5 and T4 is higher than the parameter set.	Process set has been decreased too much while dryer was running. Process filter to be cleaned. One temperature sensor is removed from the hopper. Static relays are broken
02 - ALARM REGEN.	Thermal protection on the regeneration heating chamber. A mechanical safety thermostat installed in the heater body has been engaged	Check the air flow outside the regeneration and if the regeneration blower is working. check and clean the regeneration filter.
03 - ALARM ST	Thermal protection of the processing chamber. A mechanical safety thermostat installed in the heater body has been engaged	Check the pipe connection between the dryer and the heating chamber; check the connection of T4 and T5. Check the process blower and process filter.
04 - ALARM B-P	Thermal protection of the processing blower.	Check the processing filter and make sure that there is enough processing air flow. Check the cooling fan and clean the air path.
05 – ALARM T BLOW.	The temperature on the process blower inlet is too high	Check heating exchanger condition and if the cooling fan is working
06 - BLOCKED BLOW.	The process blower is not running properly or is blocked	Process blower is in thermal protection, wait until cooled; if a filter for electronic cooling is installed on blower check the filter to be free flow, fuse broken inside the blower, connector on the main board unplugged. Check for blower free rotation
07 - OVERT. REG.	The regeneration temperature is too high	Check regeneration filter, regeneration solid state relays

WARNING	CAUSE	PROBLEM SOLVING
NO CHARGE LOAD#1	Material missing on loader 1, the one normally installed on drying hopper	Check the material source if is enough, make sure that all the vacuum line if free and the vacuum level is good enough. Clean the vacuum filter.
NO CHARGE LOAD#2	Material missing on hopper loader 2, the one normally installed on IMM	Check the material source if is enough, make sure that all the vacuum line if free and the vacuum level is good enough. Clean the vacuum filter, check the sealing of the cup.
30 - CLEAN FILTER	Process air filter timer elapsed or if installed pressure switch engaged by clogged filter pressure drop	Clean the processing filter inside the dryer by opening the front door.
31 - ROTOR BLOCKED	Stepper motor	Check the rotor drag group
32 - WARNING DP-S	Dew point lower than settled	wait for an hour and if not better check for all the dryer efficiency.
33- HALO OFFLINE	The Halo wich has been activated as present on factory menu, is not communicating with the dryer	Check the cable from halo going into the dryer to the modbus#1 port. check halo modbus address to be "1". set halo "not present" on factory menu.
34-OVERTHROUGHPUT	material loaded by drying hopper loader exceed the setting both for number of cycle or for halo detection versus dryer and hopper capacity	reduce pick up rate from drying hopper and reset the alarm to open the slide gate under the drying hopper if equipped
36 - CLEAN SUCK FILT.	Vacuum filter for pneumatic convey	Clean the vacuum filter behind the dryer or installed on vacuum unit.
40 - WRONG REQUEST	This is appearing when you select an air flow lower than the minimum. Only work in manual mode	Increase the processing blower airflow in the user menu.
41 - WRONG REQUEST	This happen when you have selected a throughput higher than the hopper capacity. Only valid in advance mode	Reduce the throughput required
45- ENDING LOT	The production lot settled is under 10% left to be finished	just an advise to be fine with. reset to clear the warning
46- BATCH FINISH	The amount of material settled to be dryed is over and the dryer stay in standby mode	Enter the user menu and set start YES if you want to dry another batch or engage NO if you want to run the dryer continuosly.

11.6.Spare parts

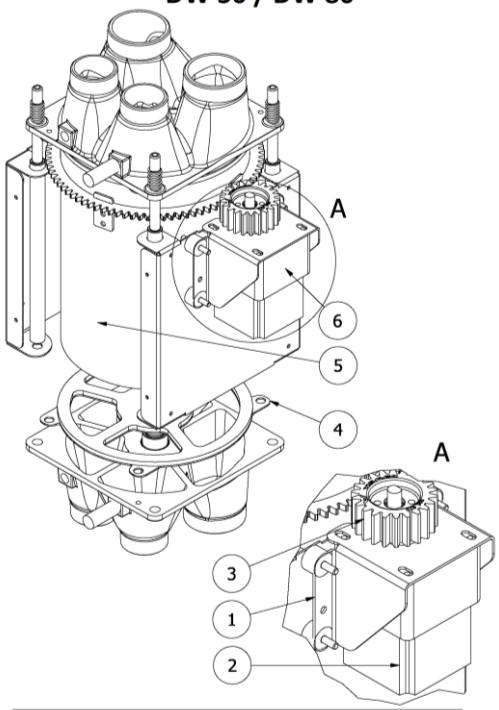


PARTS LIST			
ITEM	STOCK NUMBER	QTY	DESCRIPTION
1	650001 650002	1	Heating element 1 kW Heating element 1,5 kW
2	457	1	Safety thermostat 130°C



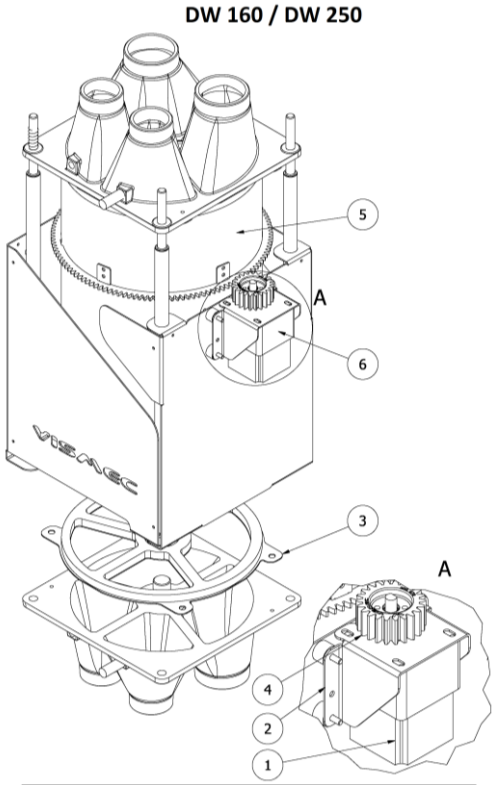
PARTS LIST			
ITEM	QTY	STOCK NUMBER	DESCRIPTION
1	2	4515903	Static relè
2	1	650003 650004 650005	Heating element 2,5kW Heating element 3,5kW Heating element 7kW
3	1	457	Safety thermostat 130°C

DW 50 / DW 80



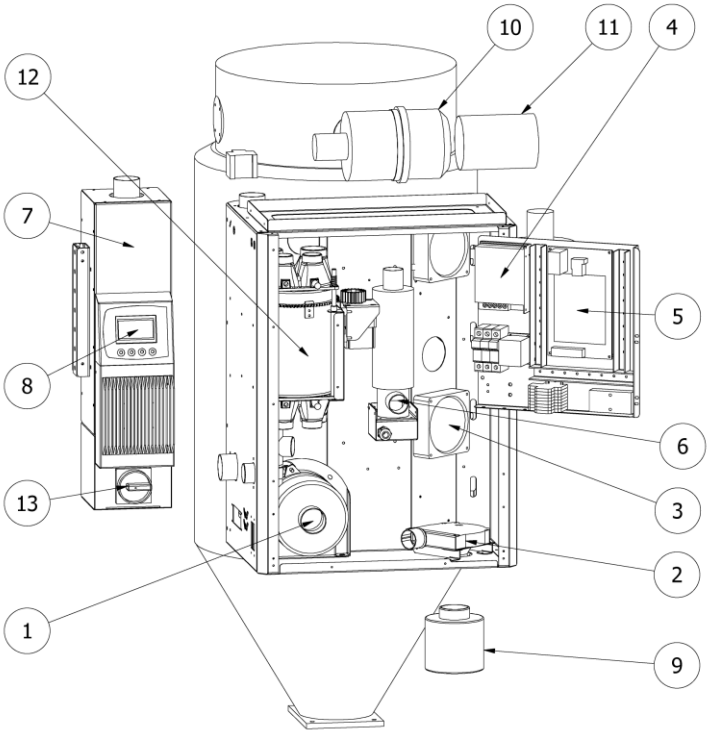
PARTS LIST			
ITEM	QTY	STOCK NUMBER	DESCRIPTION
1	1	627A006	Gear motor support
2	1	4121201	Step gear motor
3	1	6	White gear
4	2	50	Complete gasket 4 holes D.150 mm
5	1	729	Spare rotor D150 H200 with driving gear
6	1	1973	Rotor drag group

DW 160 / DW 250



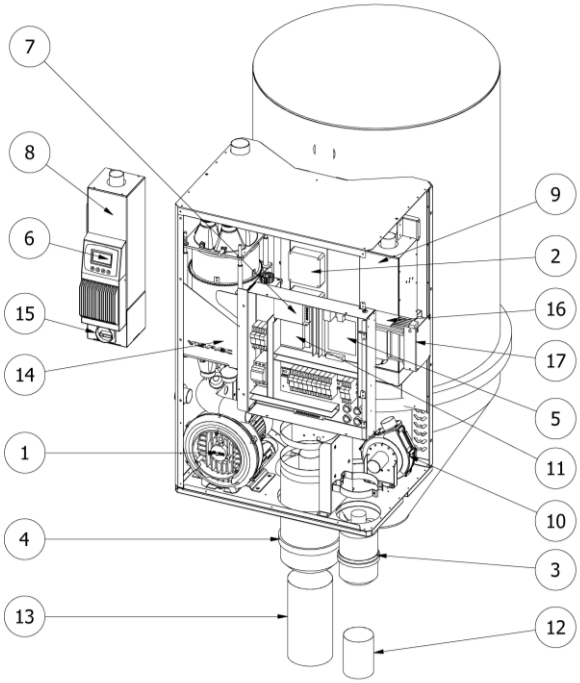
PARTS LIST			
ITEM	QTY	STOCK NUMBER	DESCRIPTION
1	1	4121201	Step gear motor
2	1	627A006	Gear motor support
3	2	203	Rotor's gasket D230
4	1	6	White gear
5	1	730	Spare rotor with gear ring for DP DW 160 250 Including rotor + gear + fittings
6	1	1973	Rotor drag group

DW 50 / DW 80



PARTS LIST			
ITEM	STOCK NUMBER	QTY	DESCRIPTION
1	4180905 (DW 50) 4180900 (DW 80)	1	Process blower
2	4180904 (DW 50) 01045 (DW 80)	1	Regeneration blower
3	4170302	1	Cooling fan 8,6 W
4	4703101	1	switching power supply 230V 75W-24Vdc
5	4530101	1	Main electronic board
6	51	1	Regeneration heating chamber
7	55 (DW 50) 47 (DW 80)	1	Process heating chamber
8	4530202	1	Display LCD DB237
9	4240204	1	Complete regeneration filter
10	4240201	2	Complete process filter
11	4240203	1	Process cartridge filter
12	49	1	Dehumifying rotor group DP50/DP80
13	1469	1	Main switch

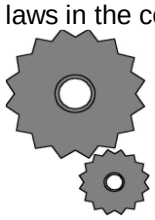
DW 160 / DW 250



PARTS LIST			
ITEM	STOCK NUMBER	QTY	DESCRIPTION
1	760 (DW 160) 761 (DW 250)	1	Process blower
2	4170302	1	Cooling fan 8,6 W
3	4240201	1	Complete regeneration filter
4	4240207	1	Complete process filter
5	4530101	1	Main electronic board
6	4530202	1	Display LCD DB237
7	4703101	1	switching power supply 230V 75W-24Vdc
8	244 (DW 160) 642 (DW 250)	1	Process heating chamber
9	249	1	Regeneration heating chamber
10	4180905	1	Air blower 135W 230VAC
11	4703102	1	switching power supply 230V 50W-24Vdc
12	4240203	1	Regeneration cartridge filter
13	61	1	Process cartridge filter
14	202	1	Dehumifying rotor group DP160/DP250
15	1469	1	Main switch
16	762 (DW 160) 763 (DW 250)	1	Inverter
17	764 (DW 160) 765 (DW 250)	1	EMC Filter

12. Decommissioning the machine

When the machine's life cycle comes to an end, it must be disconnected from the electrical supplies and deinstalled from itd working position. The machine must be disposed of in full compliance with statutory laws in the country where it is installed.

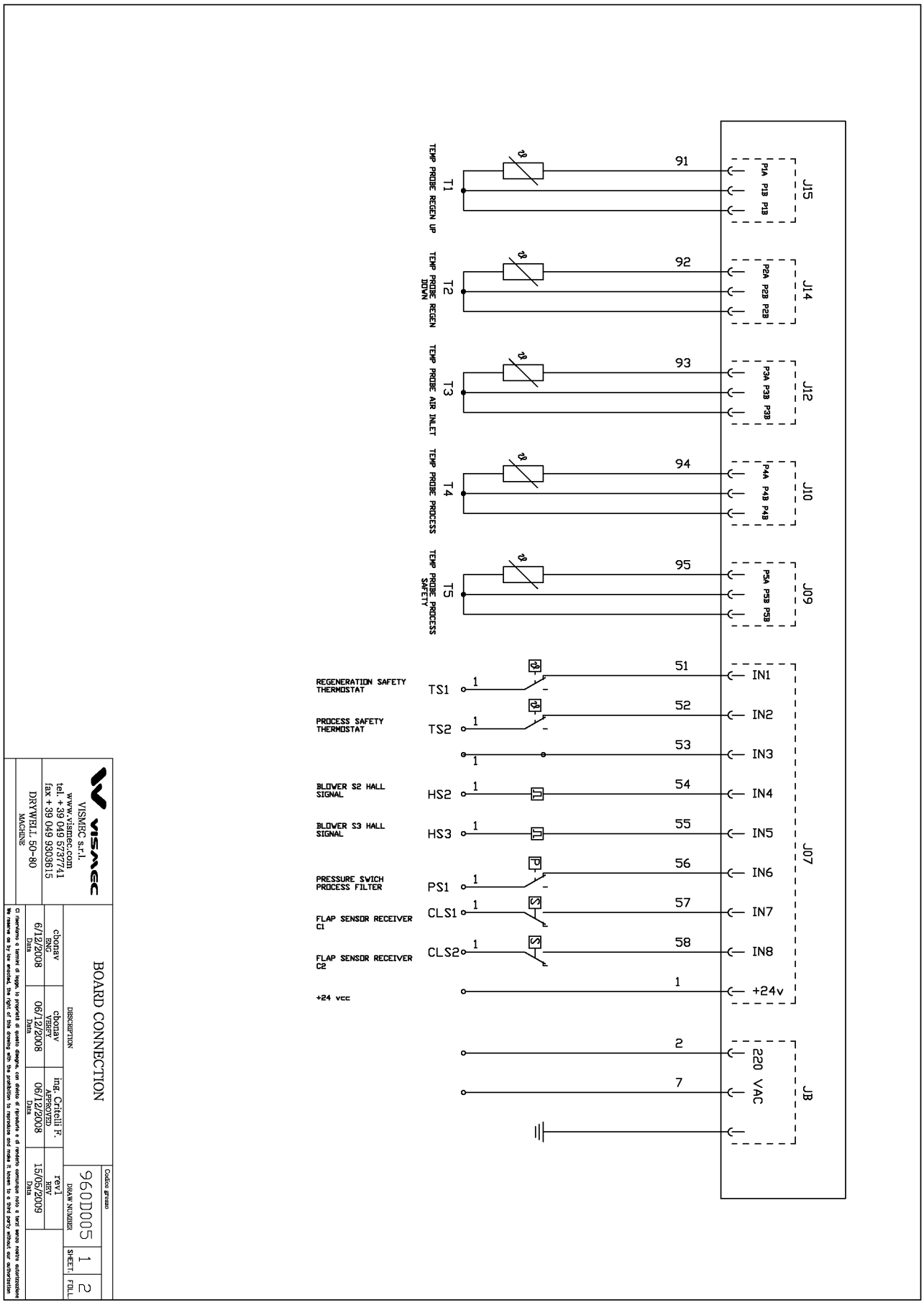


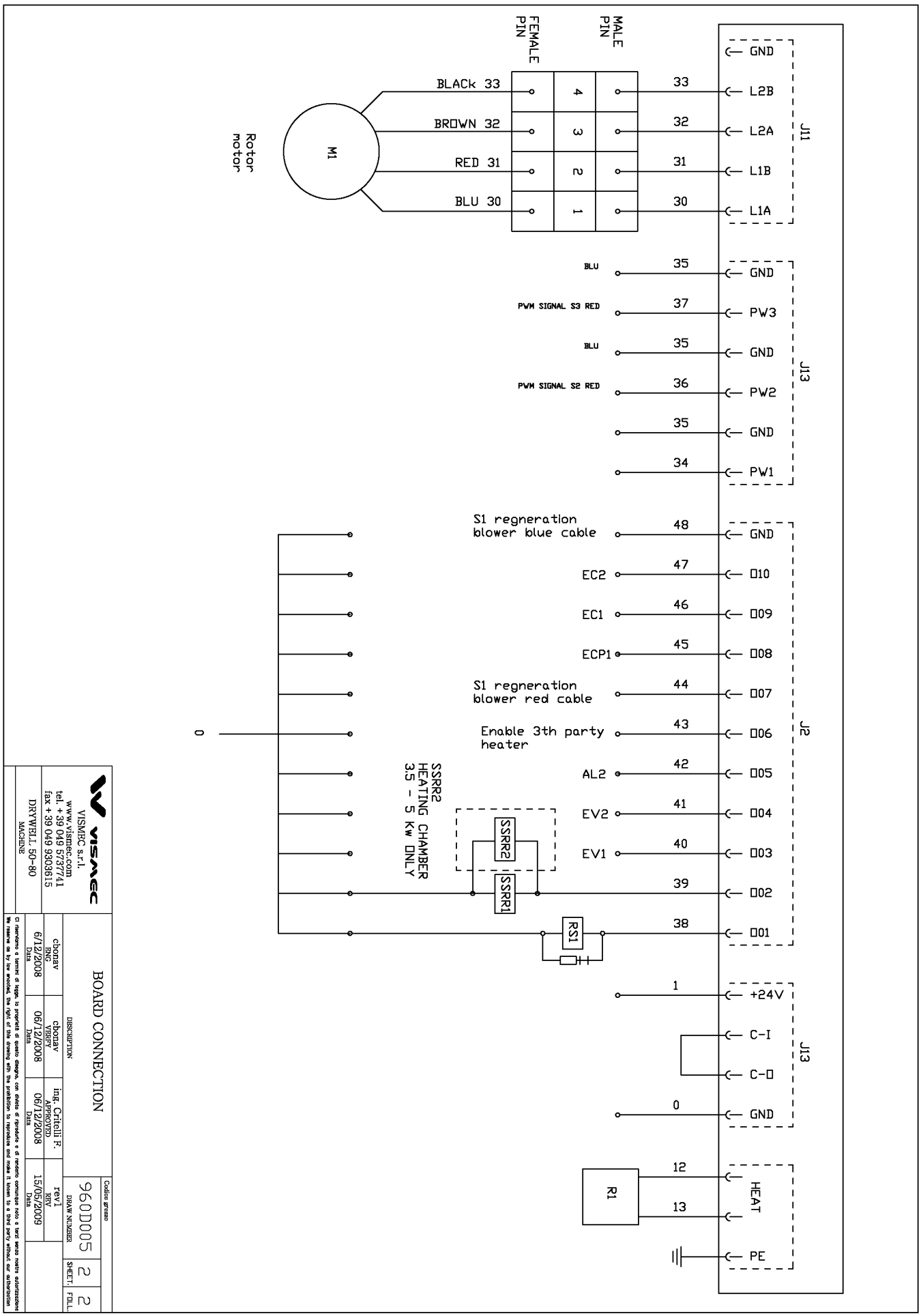
ATTENTION
After having removed the machine from working position, permanently affix to it a notice with the message: "MACHINE TO BE SCRAPPED: DO NOT USE":

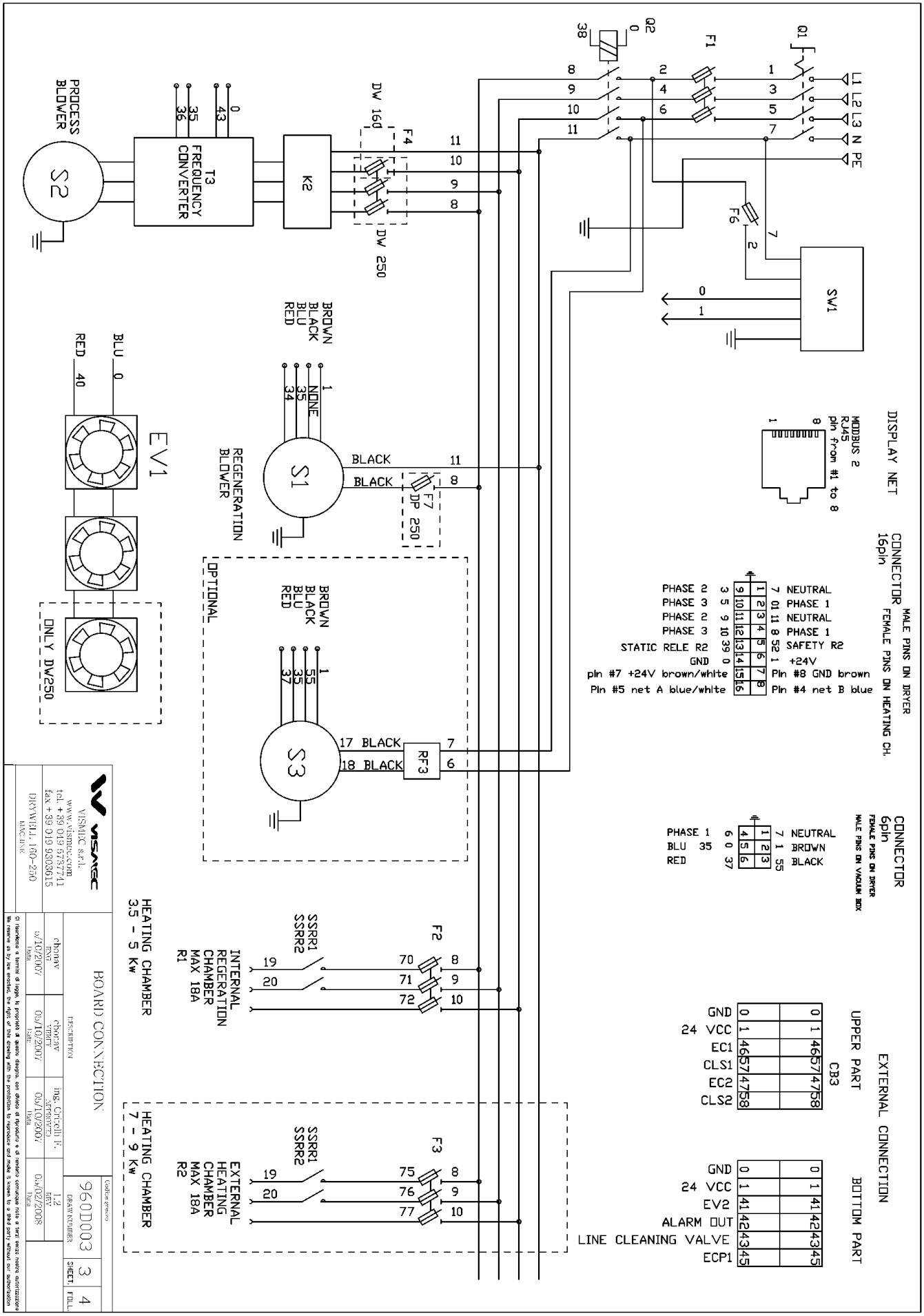
13. Material database

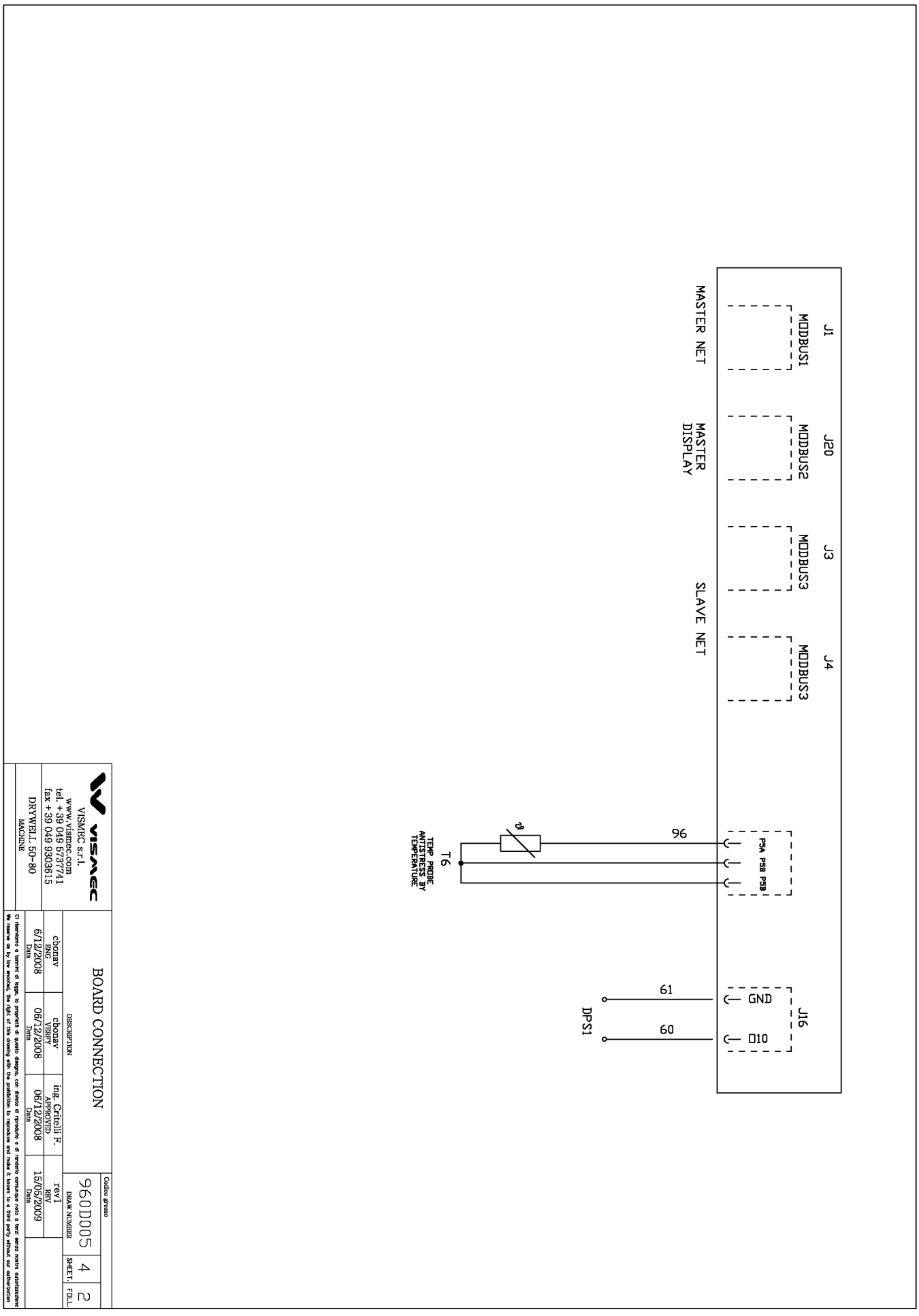
MATERIAL DATABASE VISMEC				
Material		**B.D.**	**residence time**	**Process temperature**
code	**description**	**kg/dm3**	**h**	**°C**
ABS mold.	Acrilonitril-butadien-stirene	0,6	3	80
ABS ext	Acrilonitril-butadien-stirene extrusion	0,6	3,5	85
ABS/PC	Acrilonitril-butadien-stirene + policarbonato	0,65	3	100
ASA	Polimero aggraffato elastomero AN/A stirene	0,6	3	90
CA	Acetato di cellulosa	0,5	2,5	70
CAB	Acetobutirrato di cellulosa	0,5	2,5	70
CP	Propionato di cellulosa	0,6	4	75
EVA	Etilene Vinilacetato	0,6	3	80
Ionomere Pe ion	ionomeri	0,56	3,5	75
EPDM		0,52	4	80
LCP	Polimero cristalli liquidi	0,6	4	150
PA 6	Poliammide 6	0,65	5	75
PA 66	Poliammide 6, 6/10	0,65	5	80
PA66+35FV	Poliammide + glass fiber 35%	0,85	5	80
PA 12	Poliammide 12	0,65	3	75
PA 11	Poliammide 11, 12	0,65	5	75
PC	Policarbonato	0,7	3	120
PC for CD	Policarbonato for optical disck	0,7	4	120
PC + PBT	policarbonato + polibutileneterftalato	0,7	3,5	110
PE	Polietilene	0,6	3	90
PE (40% nerofumo)	Polietilene (40% nerofumo)	0,6	5	85
PEEK	Polieterchetone	0,6	4	155
PEI	Polieterimmide	0,6	4,5	155
PEN	Polietilenaftatalato	0,85	5	170
PES	Polietersulfone	0,7	4	155
PES	Polietersulfone (estrusione)	0,7	4	180
PET	Polietilentereftalato (iniezione)	0,85	4	130
PET ext	Polietilentereftalato (preforme-estrusione)	0,85	6	170
PETG	Polietilentereftalato (modif. con glicole)	0,6	4,5	65
PBT	Polibutilentereftalato	0,7	3,5	125
PI	Poliimmide	0,6	2,5	120
PMMA	Polimetilmetacrilato	0,65	4	80
POM	Poliossimetilene / Poliacetale	0,6	3	100
PP	Polipropilene	0,5	2,5	90
PP ext	Polipropilene estrusione	0,5	2	100
PP GF20	Polipropilene +20% fibra vetro	0,63	3	90
PPGF30	Polipropilene +30% fibra vetro	0,68	3	90
PP (40% talco)	Polipropilene (40% talco)	0,6	2,5	90
PPO	Polifenilenossido	0,5	2,5	105
PPS	Polifenilensulfide	0,6	3,5	140
PS	Polistirene	0,55	2	80
PSU	Polisulfone	0,65	3,5	135
	Polisulfone (estrusione)	0,65	3	170
PSU GF20	Polisulfone +20% fibra vetro	0,84	3	150
PUR	Poliuretano	0,7	3	85
PVC	Polivinilcloruro	0,8	1,5	70
SAN	Stirene-acrilonitrile	0,5	2,5	80
SB	Stirene-butadiene	0,6	2	80
TPE	Elastomero termoplastico	0,65	3	110
TPU	Elastomeri PUR termoplastici	0,65	3	90

14. Electrical wiring

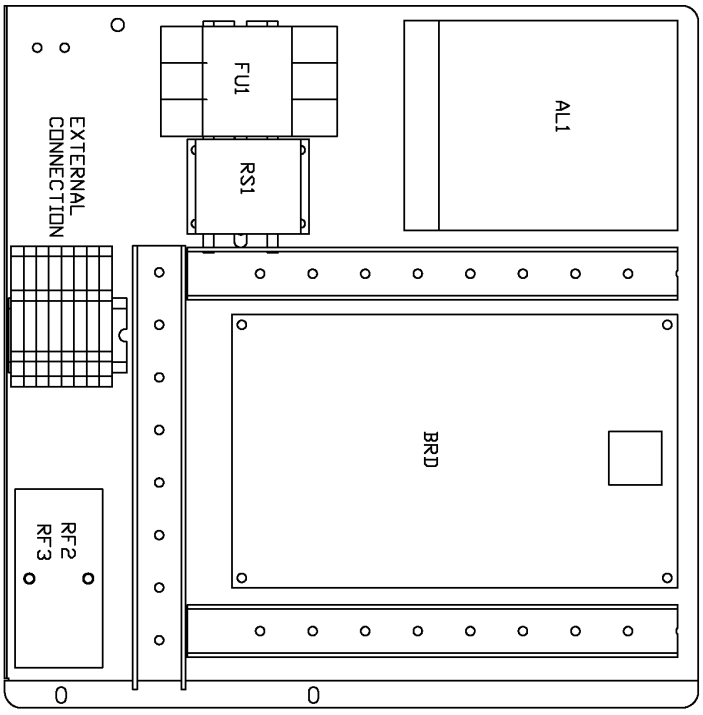



FEMALE PIN
MALE PIN
BLACk 33
BROWN 32
RED 31
BLU 30
Rotor motor
M1
J11
GND
L2B
L2A
L1B
L1A
33
32
31
30
J13
BLU
PWM SIGNAL S3 RED
PWM SIGNAL S2 RED
GND
PW3
PW2
PW1
35
37
36
34
J2
S1 regneration blower blue cable
S1 regneration blower red cable
Enable 3th party heater
EC2
EC1
ECP1
AL2
EV2
EV1
48
47
46
45
44
43
42
41
40
39
38
SSRR2
SSRR1
RS1
SSRR2 HEATING CHAMBER 3.5 - 5 Kw ONLY
0
1
+24V
C-I
C-O
GND
R1
12
13
HEAT
PE
VISMEC s.r.l.
www.vismec.com
tel. + 39 049 5737741
fax + 39 049 9303615
DRYWELL 50-80
MACHINE
DESCRIPTION
chomev
DRAW
6/12/2008
Data
chomev
VERIFY
06/12/2008
Data
ing. Critelli F.
APPROVED
06/12/2008
Data
rev1
REV
15/05/2009
Data
BOARD CONNECTION
DRAW NUMBER
960D005
SHEET
2
FULL
2
Codice grezzo
Ci riserviamo a termini di legge, la proprietà di questo disegno, con divieto di riprodurlo e di renderlo comunque noto a terzi senza nostra autorizzazione
We reserve as by law anyright of the drawing with the prohibition to reproduce and make it known to a third party without our authorization


L1 L2 L3 N PE
Q1
Q2
F1
F6
SW1
PROCESS BLOWER
S2
T3 FREQUENCY CONVERTER
K2
F4
DW 160
DW 250
REGENERATION BLOWER
S1
F7 DP 250
BROWN BLACK BLU RED
NONE
BLACK 11
BLACK 8
EV1
RED 40
BLU 0
ONLY DW250
OPTIONAL
S3
17 BLACK
18 BLACK
RF3
DISPLAY NET
MODBUS 2 RJ45 pin from #1 to 8
CONNECTOR 16pin
MALE PINS ON DRYER
FEMALE PINS ON HEATING CH.
PHASE 2
PHASE 3
PHASE 2
PHASE 3
STATIC RELE R2
GND
pin #7 +24V brown/white
Pin #5 net A blue/white
NEUTRAL
PHASE 1
NEUTRAL
PHASE 1
SAFETY R2
+24V
Pin #8 GND brown
Pin #4 net B blue
CONNECTOR 6pin
FEMALE PINS ON DRYER
MALE PINS ON VACUUM BOX
PHASE 1
BLU 35
RED
NEUTRAL
BROWN
BLACK
EXTERNAL CONNECTION
UPPER PART
CB3
GND
24 VCC
EC1
CLS1
EC2
CLS2
BOTTOM PART
GND
24 VCC
EV2
ALARM OUT
LINE CLEANING VALVE
ECP1
HEATING CHAMBER 3.5 - 5 Kw
INTERNAL REGERATION CHAMBER MAX 18A R1
SSRR1
SSRR2
F2
HEATING CHAMBER 7 - 9 Kw
EXTERNAL HEATING CHAMBER MAX 18A R2
F3
BOARD CONNECTION
VISMEC s.r.l.
www.vismec.com
tel. + 39 019 6737741
fax + 39 019 9203615
DRYWELL 160-250
960D003
SHEET 3 4

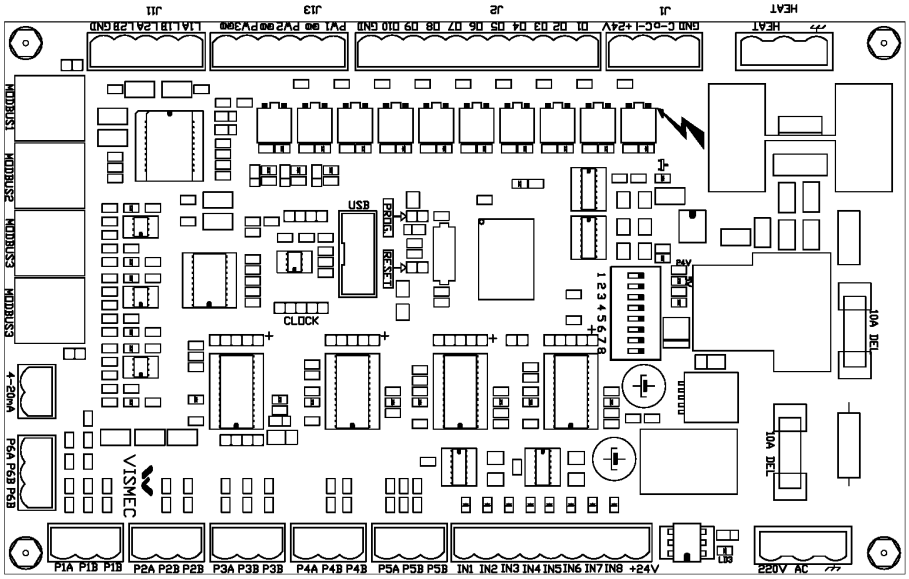

J1
MODBUS1
J20
MODBUS2
J3
MODBUS3
J4
MODBUS3
MASTER NET
MASTER DISPLAY
SLAVE NET
PSA PSB PSB
96
T6
TEMP PROBE ANTISTRESS BY TEMPERATURE
61
60
DPS1
GND
10
J16
VISMEC
VISMEC s.r.l.
www.vismec.com
tel. + 39 049 5737741
fax + 39 049 9303615
DRYWELL 50-80
MACHINE
BOARD CONNECTION
DESCRIPTION
cbonev
DRAW
6/12/2008
Data
cbonev
VERIFY
06/12/2008
Data
ing. Critelli F.
APPROVED
06/12/2008
Data
rev1
REV
15/05/2009
Data
960D005
DRAW NUMBER
4
SHEET
2
FULL
Codice grezzo
Ci riserviamo a termini di legge, la proprietà di questo disegno, con divieto di riprodurlo e di renderlo comunque noto a terzi senza nostra autorizzazione
We reserve as by law enacted, the right of the drawing with the prohibition to reproduce and make it known to a third party without our authorization

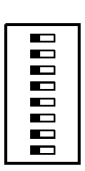
ELECTRIC PLANT COMPONENTS LAYOUT
DRYWEEL50-80



	DP50	DP80
FU1	16A	16A
FU2	10A	10A

BRD BOARD LAYOUT





DRYWEEL 50-80

VISMEC s.r.l.
www.vismec.com
tel. + 39 049 5737741
fax + 39 049 9303615

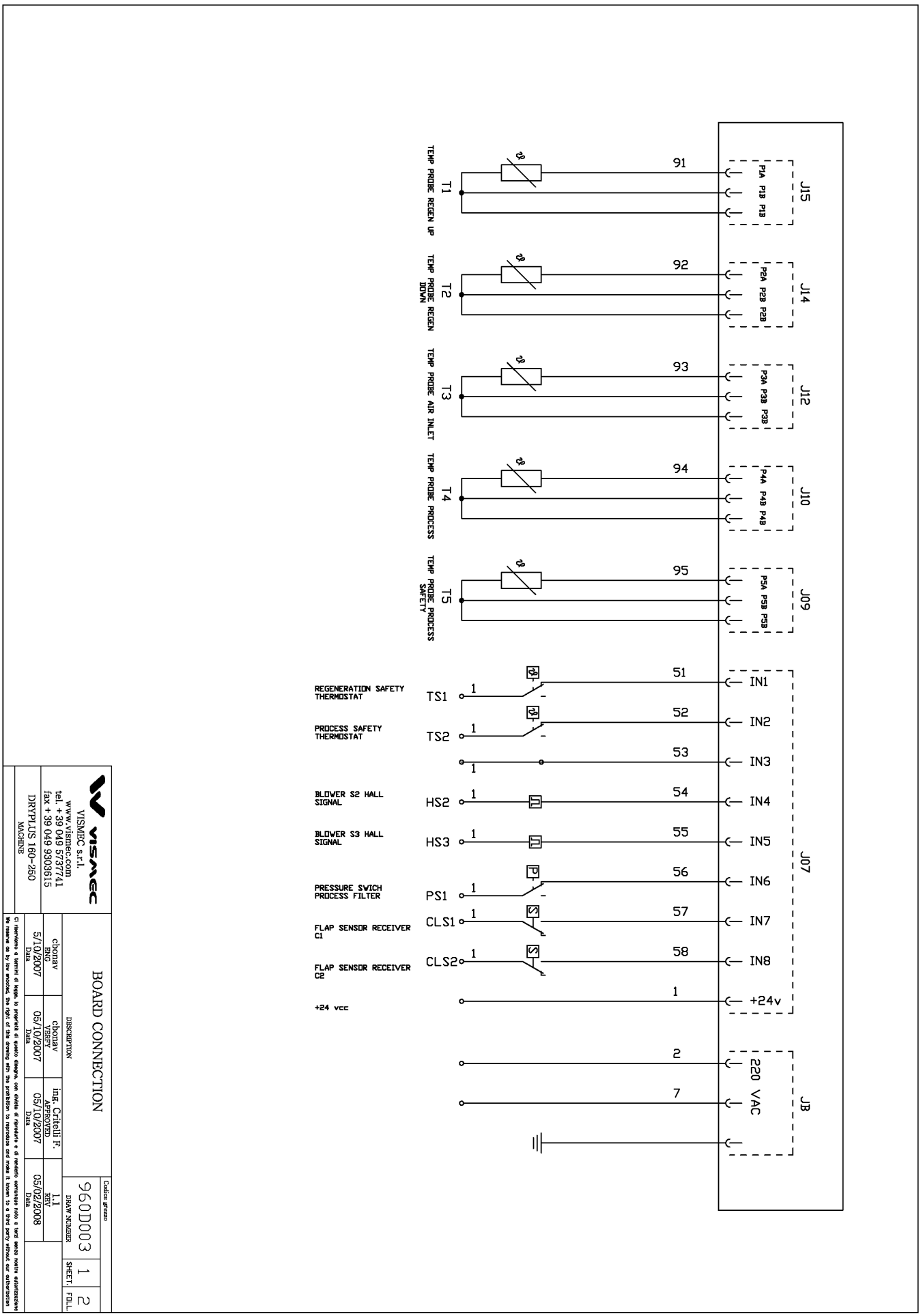
DRYWELL 50-80
MACHINE

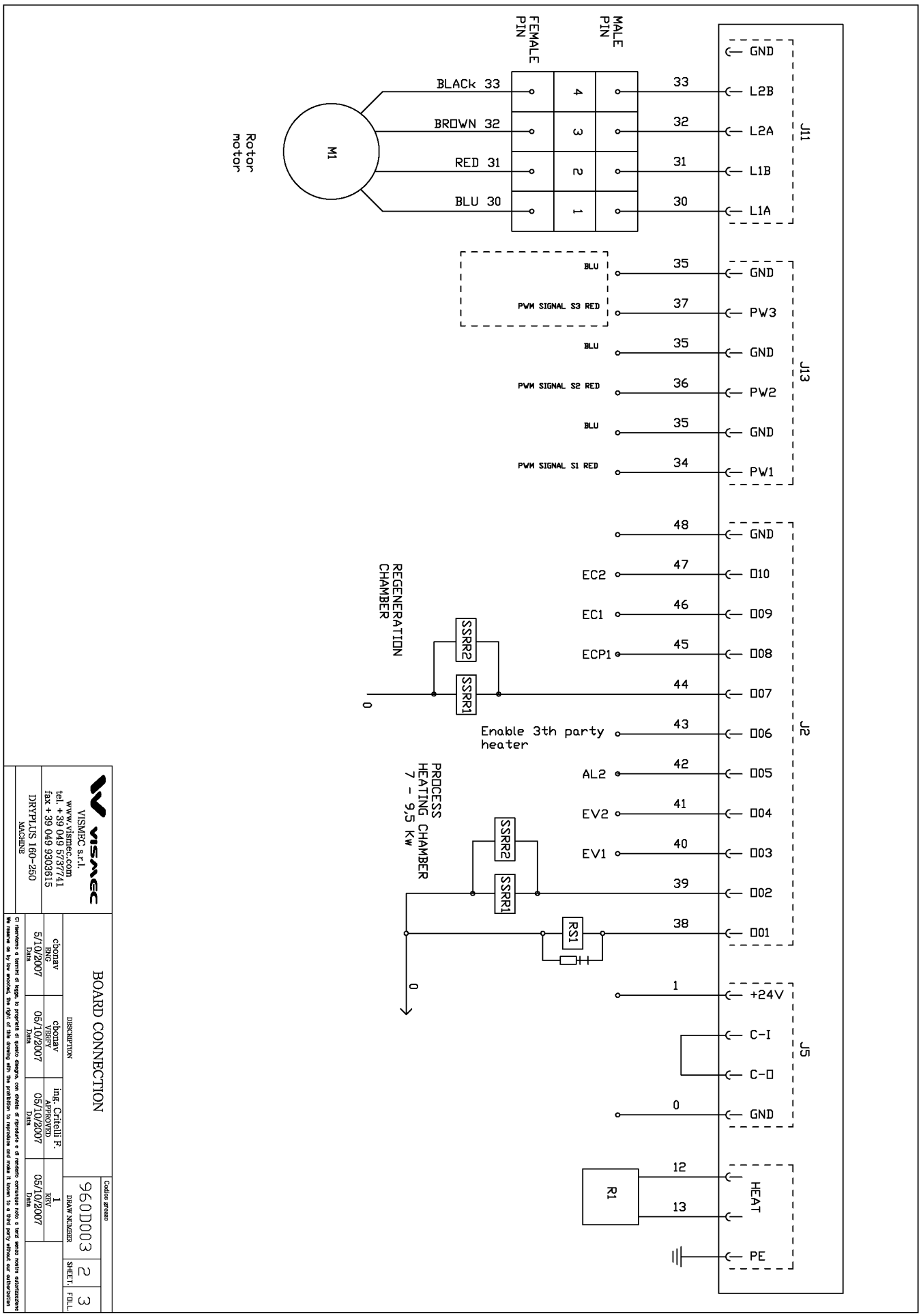
COMPONENTS LAYOUT

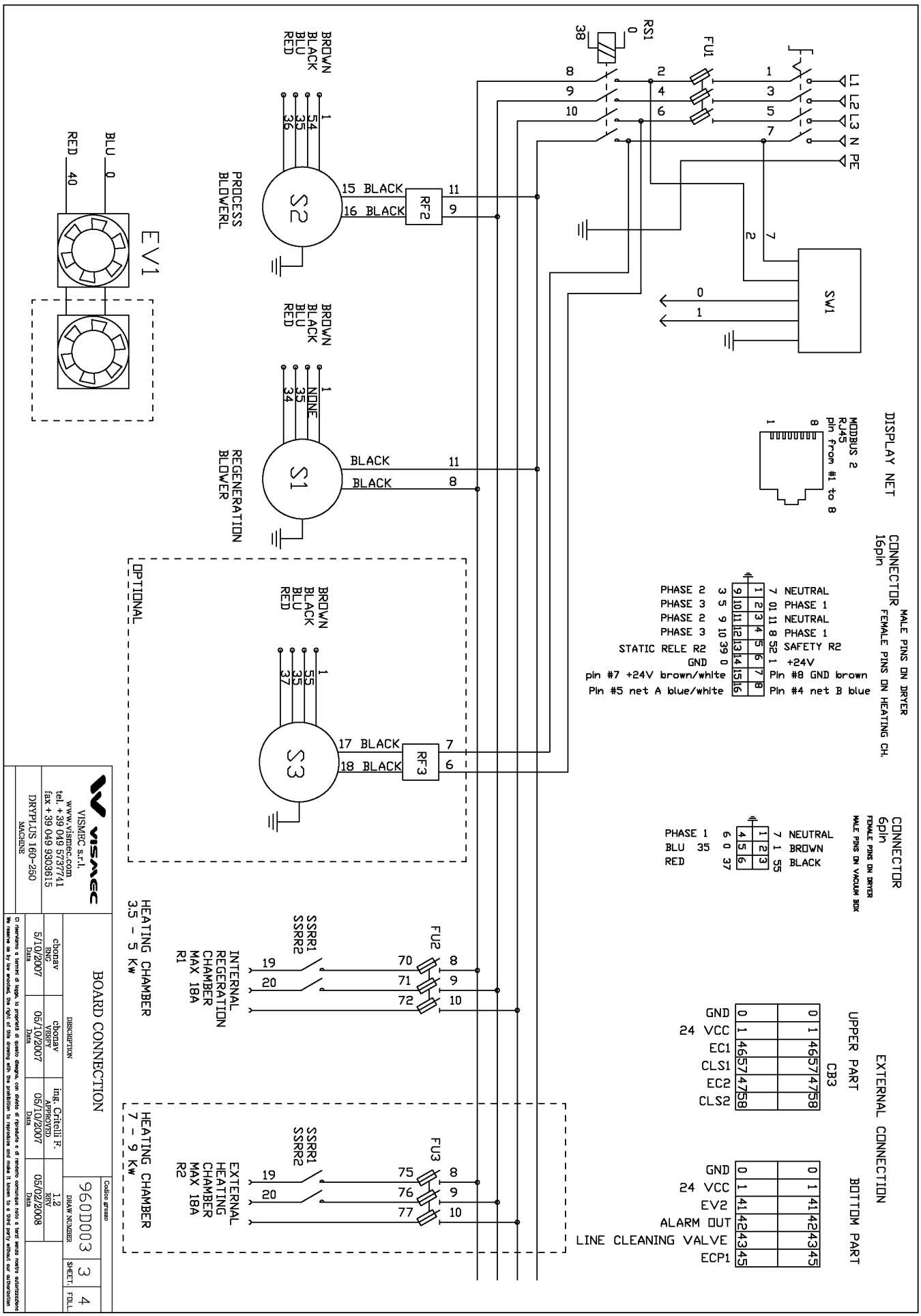
DESCRIPTION			
chomev	chomev	ing. Criteli F.	rev1
DRAWING	VISREV	APPROVED	REV
6/12/2008	06/12/2008	06/12/2008	15/05/2009
Data	Data	Data	Data

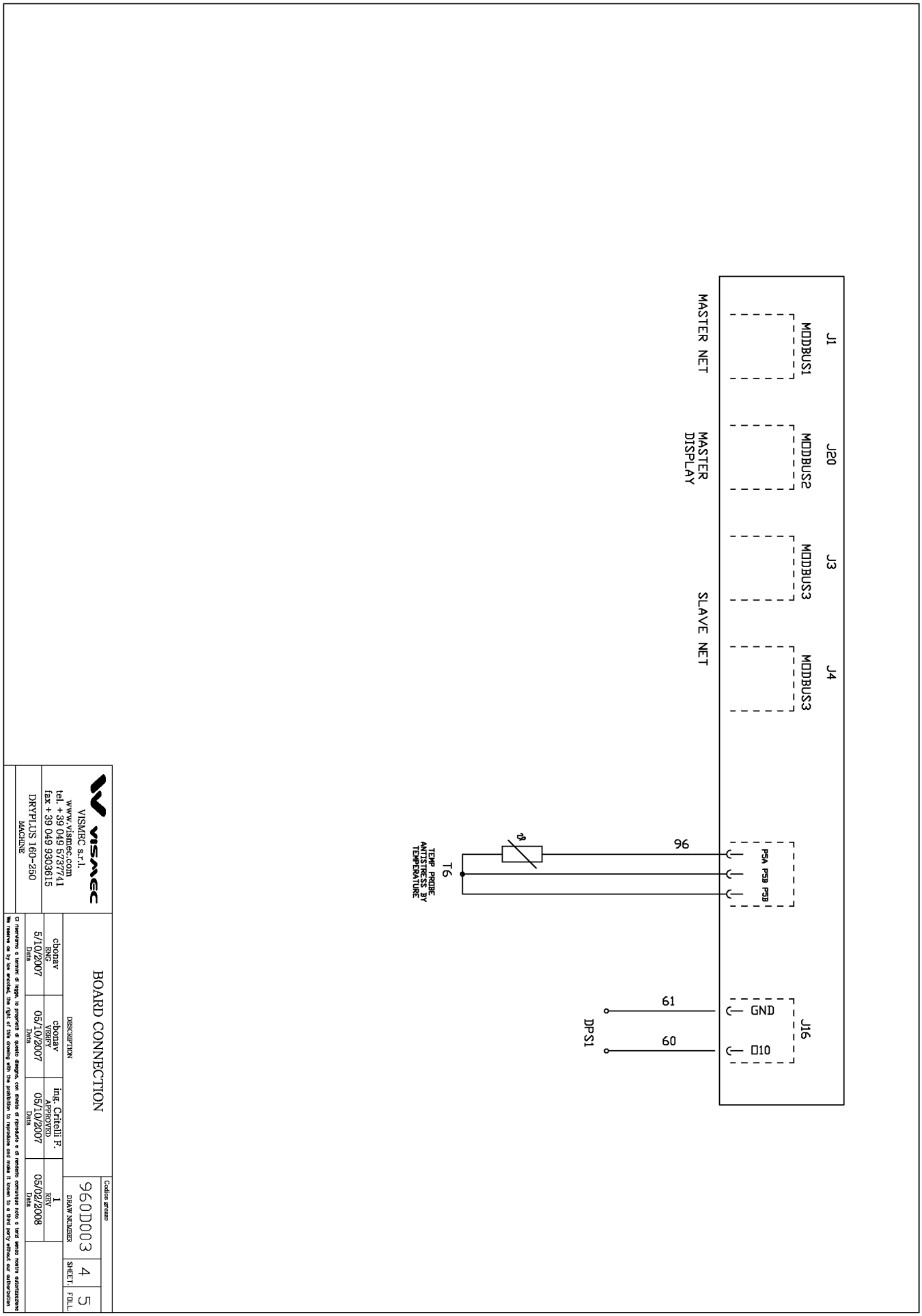
Codice grezzo

DRAW NUMBER 960D005 | SHEET: 5 | FOLL.: 2

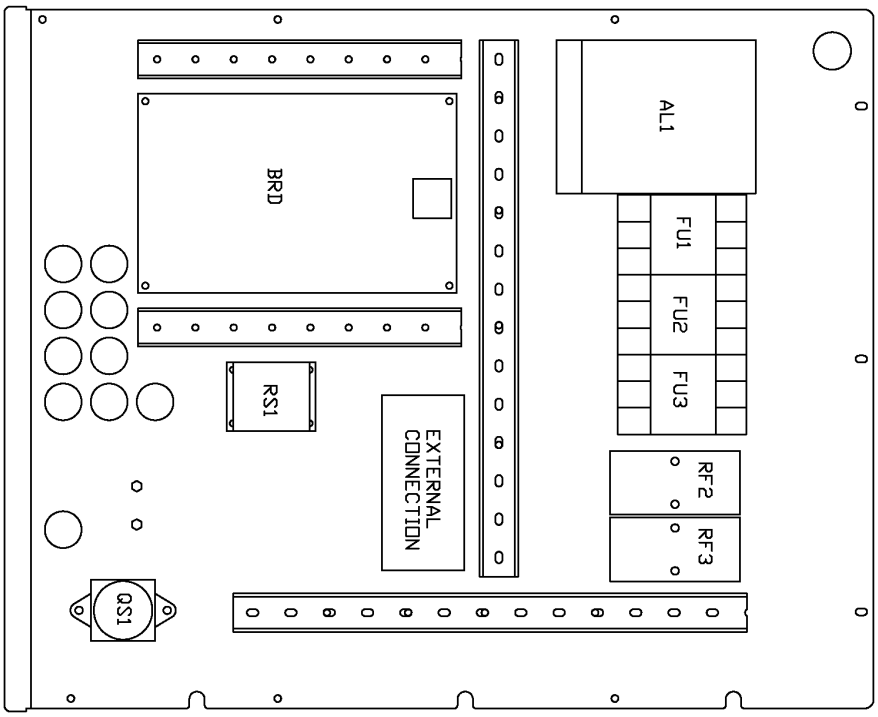





L1 L2 L3 N PE
RS1
FU1
SW1
DISPLAY NET
MODBUS 2
RJ45
pin from #1 to 8
CONNECTOR
16pin
MALE PINS ON DRYER
FEMALE PINS ON HEATING CH.
PHASE 2
PHASE 3
PHASE 2
PHASE 3
STATIC RELE R2
GND
pin #7 +24V brown/white
Pin #5 net A blue/white
NEUTRAL
PHASE 1
NEUTRAL
PHASE 1
SAFETY R2
+24V
Pin #8 GND brown
Pin #4 net B blue
CONNECTOR
6pin
FEMALE PINS ON DRYER
MALE PINS ON VACUUM BOX
PHASE 1
BLU 35
RED
NEUTRAL
BROWN
BLACK
EXTERNAL CONNECTION
UPPER PART
CB3
GND
24 VCC
EC1
CLS1
EC2
CLS2
BOTTOM PART
GND
24 VCC
EV2
ALARM OUT
LINE CLEANING VALVE
ECP1
PROCESS BLOWERL
REGENERATION BLOWER
OPTIONAL
S1
S2
S3
RF2
RF3
SW1
EV1
SSRR1
SSRR2
FU2
FU3
INTERNAL REGERATION CHAMBER MAX 18A R1
EXTERNAL HEATING CHAMBER MAX 18A R2
HEATING CHAMBER 3.5 - 5 Kw
HEATING CHAMBER 7 - 9 Kw
BROWN
BLACK
BLU
RED
BLACK
BLACK
17 BLACK
18 BLACK
15 BLACK
16 BLACK
VISMEC s.r.l.
www.vismec.com
tel. + 39 049 5737741
fax + 39 049 9303615
BOARD CONNECTION
DRYPLUS 160-250
MACHINE
960D003
Codice gruppo
DRAW NUMBER
SHEET
FOLL.

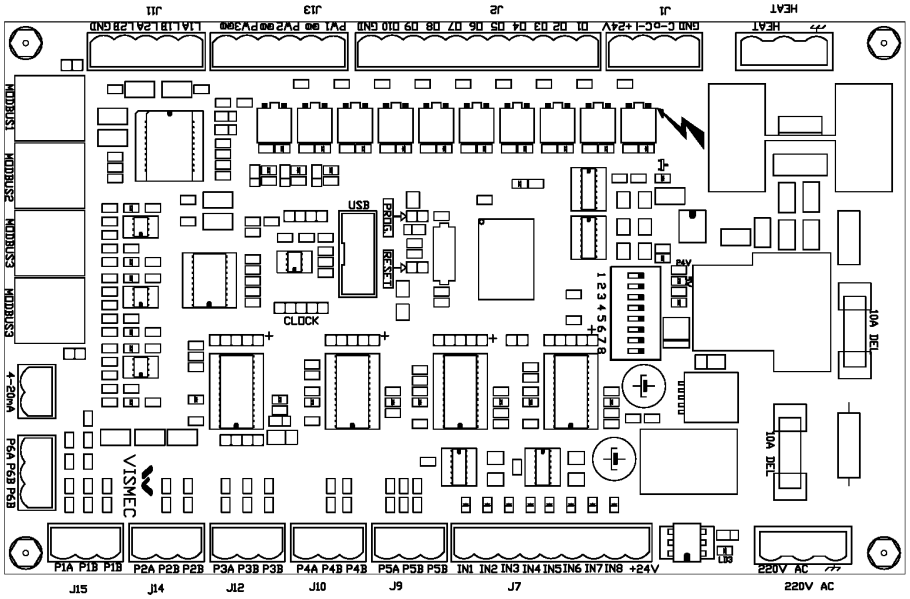


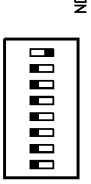
ELECTRIC PLANT COMPONENTS LAYOUT
DRYPLUS 160-250



	DP160	DP250
FU1	25A	32A
FU2	10A	16A
FU3	16A	25A

BRD BOARD LAYOUT





DRYPLUS 160-250

VISMEC s.r.l.
www.vismec.com
tel. + 39 049 5737741
fax + 39 049 9303615

COMPONENTS LAYOUT

DESCRIPTION			
chomev	chomev	ing. Criteli F.	
DRAW	VERIFY	APPROVED	
10/04/2008	10/04/2008	12/04/2008	05/02/2008
Data	Data	Data	Data

DRYPLUS 160-250
MACHINE

Codice grezzo

DRAW NUMBER	REV	SHEET	FOLL.
960D003	0	5	00

#	Description	Code
R1	Regeneration heater	
R2	Processing heater	
TS1	Safety thermostat R1	
TS2	Safety thermostat R2	
S1	Regeneration blower	
S2	Processing blower	
S3	Feeding system blower	Option
B1-T1	Temperature probe regeneration up	
B2-T2	Temperature probe regeneration down	
B3-T3	Temperature probe air inlet	
B4-T4	Temperature prober process	
B5-T5	Temperature probe safety	
RF2	RC filter blower S2	
RF3	RC filter blower S3	Option
K2	EMC filter	
T3	Frequency converter	
SW1	CC power switching source	
EV1	Cooling fan	
EV2	Vacuum blower cleaning valve	Option
M1	Step motor	
Q2	Contactor	
Q1	General power switching	
FU1	General fuse	
FU2	Regeneration heating fuse	
FU3	Process heating fuse	
XS1	Connectors	
SSRR1	Static relè 1	
SSRR2	Static relè 2	
CLS1	Receiver flap sensor C1	Option
CLS2	Receiver flap sensor C2	Option
EC1	Vacuum braking valve C1	Option
EC2	Vacuum braking valve C2	Option
ECP1	Proportional valve	Option
BRD	Master board	
DPY	Display	
DPS1	Dew point sensor	Option
WT1	Weekly timer	Option
PS1	Pressure switch processing filter	Option
AL1	External alarm	

DEUMIDIFICATORE – DRYER – TROCKNER – SECHEUR – SECADORA – SECADOR

DICHIARAZIONE DI CONFORMITA' "CE"
"EC" DECLARATION OF CONFORMITY
"EG" KONFORMITÄTSERKLÄRUNG
DÉCLARATION DE CONFORMITÉ "EC"
DECLARACIÓN "EC" DE CONFORMIDAD
DECLARAÇÃO "EC" DE CONFORMIDADE
DEKLARACJA ZGODNOŚCI CE
IZJAVA ES O SKLADNOSTI

VISMEC
LEADING INNOVATION

CE

"VISMEC s.r.l."

EN45014

Via Thomas Edison 26, 35012 Camposampiero

ITALIA; ITALY; ITALIEN; ITALIE; ITALIJA

ITALIANO
Dichiariamo, sotto la nostra esclusiva responsabilità, che il prodotto

ENGLISH
We hereby declare, and assume full responsibility for this declaration, that the product

DEUTSCH
Hiermit erklären wir unter Übernahme der vollen Verantwortung für diese Erklärung, daß das Produkt

FRANÇAIS
Nous déclarons, sous notre responsabilité pleine et entière, que le produit

SLOVENSKO
s polno odgovornostjo izjavljamo, da izdelek

ESPAÑOL
Declaramos, asumiéndonos las plena responsabilidad de esta declaracion, que el producto

PORTUGÛES
Declaramos, sob nossa compleda responsabilidade, que o produto

NEDERLANDS
Hierbij verklaren wij met alle aansprakelijkheid van dien, dat het produkt

DANSK
Vi erklærer på eget ansvar at følgende produkt

POLSKI
niniejszym deklarujemy i zapewniamy, że następujący produkt:

SVESKA
Vi försäkrar under eget ansvar att följande produkt

NORSK
Vi forsikrer under eget ansvar at følgende produkter

SUOMI
Vakuutamme omalla vastuullamme että allamainittu tuote täyttävät

NOME-NAME: DRYWELL 50 - 250

DEUMIDIFICATORE – DRYER – TROCKNER – SECHEUR – SECADORA – SECADOR

ITALIANO
È conforme alle seguenti normative: EN ISO 12100:2010, EN 61000-6-2, EN 61000-6-4, EN 60204/1 in base alle prescrizioni stabilite dalla Direttive: 2006/42/CE, 2014/30/CE, 2014/35/CE.

ENGLISH
Conforms to the following standards: EN ISO 12100:2010, EN 61000-6-2, EN 61000-6-4, EN 60204/1 according to the previsions established by 2006/42/EC, 2014/30/EC, 2014/35/EC.

DEUTSCH
Den folgenden Normen entspricht: EN ISO 12100:2010, EN 61000-6-2, EN 61000-6-4, EN 60204/1 aufgrund der 2006/42/EG, 2014/30/EG, 2014/35/EG.

FRANÇAIS
Est conforme aux normes suivantes: EN ISO 12100:2010, EN 61000-6-2, EN 61000-6-4, EN 60204/1 dans le respect des prescriptions fixées par la Directive 2006/42/EC, 2014/30/EC, 2014/35/EC

SLOVENSKO
izpolnjuje naslednje standarde: EN ISO 12100:2010, EN 61000-6-2, EN 61000-6-4 in EN
60204/1 V SKLADU Z DOLOČILI DIREKTIV 2006/42/ES, 2014/30/ES

ESPAÑOL
Responde a las siguientes normativas: EN ISO 12100:2010, EN 61000-6-2, EN 61000-6-4, EN 60204/1 en base a las prescripciones establecidas por la Directiva 2006/42/EC, 2014/30/EC, 2014/35/EC.

PORTUGÛES
Està em conformidade com as seguintes normas: EN ISO 12100:2010, EN 61000-6-2, EN 61000-6-4, EN 60204/1 com base nas prescrições estanelecidas pelaDirectiva 2006/42/EC, 2014/30/EC, 2014/35/EC.

NEDERLANDS
Overeenkomstig de volgende normen is vervaardigd: EN ISO 12100:2010, EN 50081/2, EN 61000-6-4, EN 60204/1 op grond van hetgeen is vereist in Richtlijn 2006/42/EC, 2014/30/EC, 2014/35/EC.

DANSK
Opfylder følgende lovbelstemmelser: EN ISO 12100:2010, EN 61000-6-2, EN 61000-6-4, EN 60204/1 i overensstemmelse med 2006/42/EC, 2014/30/EC, 2014/35/EC

POLSKI
jest zgodny z następującymi normami i dyrektywami: en iso 12100:2010 , en 61000-6-2, en 61000-6-4, en 60204/1, 2006/42/ec, 2014/30/ec, 2014/35/ec.

SVESKA
Uppfyller följande lagkrav: EN ISO 12100:2010, EN 61000-6-2, EN 61000-6-4, EN 60204/1 i enlighet med EU-direktiv 2006/42/EC, 2014/30/EC, 2014/35/EC

NORSK
Oppfyller følgende lovmessige krav: EN ISO 12100:2010, EN 61000-6-2, EN 61000-6-4, EN 60204/1 i samsvar med EU-direktiv 2006/42/EC, 2014/30/EC, 2014/35/EC

SUOMI
Seuraavat lainmukaiset vaatimukset EN ISO 12100:2010, EN 61000-6-2, EN 61000-6-4, EN 60204/1 EU-direktiivin 2006/42/EC, 2014/30/EC, 2014/35/EC

TECHNICAL DOCUMENTATION COMPILATION:
LUCA GENTILIN

MANUFACTURER LEGAL REPRESENTATIVE:
ING. CRITELLI FEDERICO

CAMPOSAMPIERO
05/06/2019

VISMEC srl
Via Thomas Edison 26
. 35012 Camposampiero ITALY
Tel: +39 049 0990339
Tel. +39 049 5207854
info@vismec.com
vismec.com