

allows an intake pressure of:

Solvent type	Steam pressure
SENSENE	max. 3 bar (43,5 psi)
HYDROCARBON (KWL) KTEX GreenEarth HIGLO INTENSE *SOLVON K4	4÷5 bar (58÷73 psi)

*FOR MACHINES USING "SOLVON K4" SOLVENT THE PRESSURE OF THE STEAM FEED TO THE ST.

COMPUTER

05

5.14.4 Temporary temperature modification

During the execution of a program (automatic cycle) it is possible to modify the 5 programmable temperatures:

- DRUM INLET (Washing chamber);
- COOLING DRUM (Washing chamber);
- OUTLET DRUM (Washing chamber);
- COOLING SOLVENT;
- SOLVENT HEATING;

for the whole duration of the program, acting as follows:

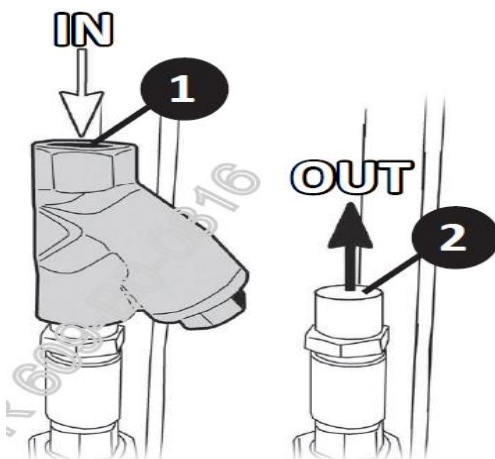
- 1) During the automatic execution of a program, press button **51** on the "additional control panel" (temperature control);
- 2) The first parameter "DRUM INLET" will appear after which it will be possible to have access to the following ones pressing on buttons \leftarrow \rightarrow ;
- 3) Select a parameter pressing on button "ENTER";
- 4) Insert the new value through the numeric keyboard and press "ENTER" to confirm;
- 5) Once setting operations of the different parameters are finished, press button "ESCAPE" for outgoing from menu and return STANDBY mode.



NOTE: AT THE END OF THE PROGRAMS IN COURSE, THE TEMPERATURE VALUES WILL RETURN THE ONES MEMORIZED IN THE PROGRAM.



NOTE: IF YOU WISH TO CARRY OUT A MODIFICATION OF THE TEMPERATURE VALUES PERMANENTLY (see paragraph 5.6.11 - Permanent variation temperature, turns).



***IMPORTANT: AT THE END OF THE DAY ALWAYS CLOSE THE STEAM SHUT-OFF VALVE.**

5.14.1 Temperature description

The temperature values are already set by the manufacturer, but they can be varied within a certain pre-defined range.

PTC	DESCRIPTION	DIFF. °C (°F)	MIN °C (°F)		MAX °C (°F)		SET/DEFAULT °C (°F)	
					Kwl KTex GE Higlo Inten. K4 Sen.		Kwl KTex GE Higlo Inten. K4 Sen.	
1	Drum inlet	- 01 (- 02)	40 (104)		Kwl KTex GE Higlo Inten. K4	80 (176)	Kwl KTex GE Higlo Inten. K4	80 (176)
					Sen.	75 (167)	Sen.	75 (167)
	Cooling drum	001 (002)	Kwl KTex GE Higlo Inten. Sen.	25 (77)	50 (122)		35 (95)	
			K4	15 (59)				
Overheating drum	001 (002)	90 (194)		100 (212)		95 (203)		
2	Outlet drum	- 01 (- 02)	40 (104)		Kwl KTex GE Higlo Inten. K4	70 (158)	Kwl KTex GE Higlo Inten. K4	70 (158)
					Sen.	65 (149)	Sen.	65 (149)
3	Cooling solvent	001 (002)	20 (68)		45 (113)		35 (95)	
	Solvent overheating	001 (002)	40 (104)		50 (122)		Sen.	23 (73)
4	Cold Air temperature	- 01 (- 02)	04 (39)		08 (46)		05 (41)	
	Evaporator overheating	001 (002)	30 (86)		50 (122)		45 (113)	
5	Water still lack	001 (002)	35 (95)		50 (122)		50 (122)	
6	Still water control	001 (002)	0 (32)		30 (86)		30 (86)	
7	Still bottom	- 05 (- 09)	110 (230)		140 (284)		*SET	**SET 2
							140 (284)	140 (284)
8	Still opening	- 01 (- 02)	36 (97)		45 (113)		40 (104)	
11	Vacuum pump cooling	001 (000)	/		/		/	
	Vacuum pump overheating	000 (000)	/		/		/	
12	Solvent heating	- 01 (- 02)	25 (77)		40 (104)		40 (104)	

* When button 20 is pressed, the computer uses the SET value as the Still bottom reference temperature.

** When buttons 20 and 33 are pressed, the computer uses the SET 2 value as the Still bottom reference temperature.

TM100 - Security Temperature Drying (MIN-MAX-SET - diff. 0,5) = 80°C (176 °F) Kwl KTex GE K4 Higlo Inten. / 75°C (167°F) Sen.

TM101 - Security Temperature Still (MIN-MAX-SET - diff. 0,5) = 135°C (275°F).

Solvents Legend

Kwl = Hydrocarbon / KTex = KTex / G.E. = GreenEarth / K4 = Solvon K4 / Higlo = Higlo / Inten. = Intense / Sen. = Sensene

9.2 Refrigerator unit

All the components of the refrigerator group are controlled by the producer following up the functioning test on the machine, in the course of the producer does the calibration for the correct functioning.
the refrigerator is composed of the following parts:

1) COMPRESSOR

This is the refrigerator system's engine and it consents the refrigeration of the drying cycle and the service solvent.

2) GAS TANK

This contains the gas* required for refrigeration.

3) LOW PRESSURE SWITCH

This device detects malfunctions during the drying cycle that are usually due to system gas* leaks or the inefficiency of the thermostat valve.

In test phases, it is calibrated at a pressure value between 0.5+0.8 Bar (7÷11 PSI).

4) HIGH PRESSURE SWITCH

This device detects the lack of water in the refrigerator system.

In the event of such a situation, the machine will stop functioning and the display of the control panel will show the specific alarm message (see chapter 13 - Troubleshooting).

Set at 25 Bar (362 PSI) with gas* freon R407C - R404A - R134A.

5) LOW PRESSURE GAUGE

This gauge shows the pressure of the gas* before the compression.

6) HIGH PRESSURE GAUGE

This gauge shows the pressure of the gas* after the compression.

7) FILTER

The filter is positioned near the gas tank and permits the filtration of any impurities in circulation during function.

8) REFRIGERATION SPY-HOLE

This consents the user to monitor the function of the refrigerating unit through a small window.

If the quantity of gas* contained in the system is lower than that required, bubbles would be seen in the spy-hole.

However, if the system contains traces of humidity, the spy-hole will show its presence through a yellow sensor.

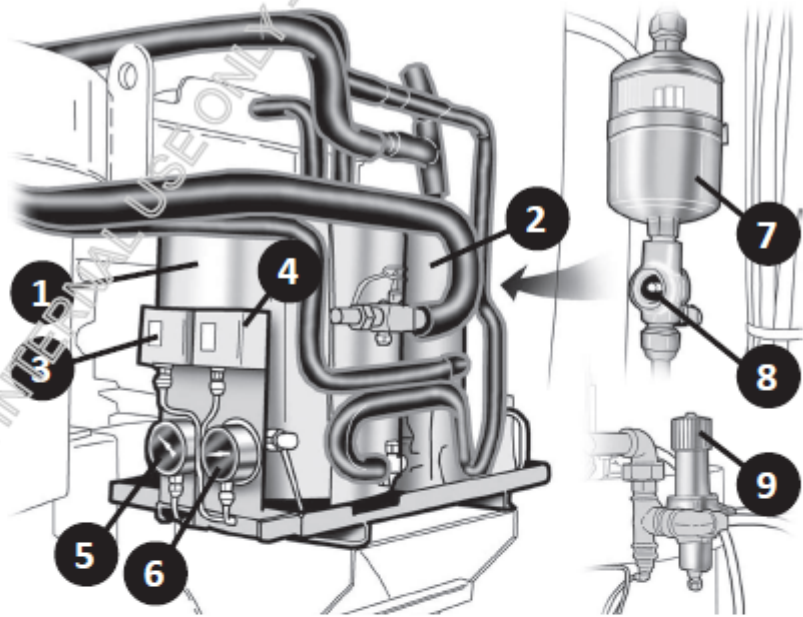
When the system is functioning normally, the sensor is green.

9) PRESSURE SWITCH VALVE

Regulates the flow of water that goes to cool the gas* inside the gas tank (2), by acting on the knob, depending on the water temperature adjust the flow so that the high pressure gauge pressure (6) signs:

20 Bar (290.1 PSI) with gas* freon R407C - R404A.

14÷16 Bar (203.1÷232.1 PSI) with gas* freon R134A.





A25 EVAPORATOR OVERHEAT

CAUSE	<p>The alarm intervenes when:</p> <ul style="list-style-type: none"> • The PC4 temperature sensor (<i>see chapter 18</i>) that controls the air temperature outlet from the evaporation chamber observe an overheating due to the disabling or malfunction of the refrigerator • The TM006B thermostat (<i>see chapter 18</i>) that control the refrigerator temperature, observe a temperature which is higher than the values permitted. <p>The computer enables the "START/STEP" and "STOP/RESET" keys which will blink accompanied by an acoustic signal.</p> <p>This alarm disables all functions except the functions concerning distillation (<i>see chapter 05</i>).</p>
SOLUTION	<ul style="list-style-type: none"> • Check that the refrigerator unit works properly; • Check that the expansion valve is working properly and that the evaporator battery situated inside the evaporation chamber, is cold; • Using the inspection glass situated beneath the filter, check that there are no bubbles as this would prove a lack of freon gas inside the system with consequential malfunctions in the cycle. Qualified maintenance personnel should be contacted to return the system to normal working conditions; • Check that the drying temperature of the drum outlet air (PTC2) is not set at a higher temperature value than that permitted as this would compromise the function of the evaporator battery; • Check that the water used for cooling the refrigerator is cold; • If the machine is equipped with a water supplied evaporator check water temperature; • Adjust the flow of battery outlet water using the manual valve in order to maintain a temperature after the evaporation chamber of not more than 30°C (86°F);
RECOVERY	<p>Once the cold air temperature drops, the display will show the end alarms message.</p> <p>Press "START/STEP" on the computer control panel to resume the interrupted cycle.</p>

MACHINE CAPACITY

Kg (Lbs)

32 (75÷80)

40 (90÷95)

GENERAL INFORMATION

Required water capacity	L/min (gal/min)	10 (3)	10 (3)
Required water pressure	bar (psi)	2 ÷ 3 (29 ÷ 44)	2 ÷ 3 (29 ÷ 44)
Required water temperature	°C (°F)	18 ÷ 23 (64 ÷ 73)	18 ÷ 23 (64 ÷ 73)
Required air pressure	bar (psi)	6 ÷ 8 (87 ÷ 116)	6 ÷ 8 (87 ÷ 116)
Required steam still / heater pressure (Standard)	bar (psi)	4 ÷ 5 (58 ÷ 73)	4 ÷ 5 (58 ÷ 73)
Required steam still / heater pressure (SENSENE)	bar (psi)	Max. 3 (43.5)	Max. 3 (43.5)
Required steam still pressure (SOLVON K4)	bar (psi)	Max. 2.5 (36)	Max. 2.5 (36)
Required steam* availability * Relative values of dry saturated steam	Kg/h (Lbs/h)	100 (220)	100 (220)

9.1 Drying tunnel

The drying tunnel, consisting of various different components, dries pieces contained in the rack, the duration of the drying phase depends on the quantity and type of clothing processed.

The main components of the drying tunnel are:

1) AIR FILTER

This device serves to retain any lint released by garments during drying.

2) VENTILATOR

Determines the movement of the air contained in the washing chamber.

3) EVAPORATOR

Supplied by the cooling gas of the chiller, it reaches temperatures below -25°C (-13°F) so that basically all the particles of solvent in-taken by the air during the drying phase are condensed.

4) HEAT PUMP

Partially heats the air using "free" heat produced by the refrigerator.

5) HEATER

Once the air has been preheated by the heat pump it is sent to the heater which, supplied by the aqueous vapour, heats it further before it returns to the washing chamber.

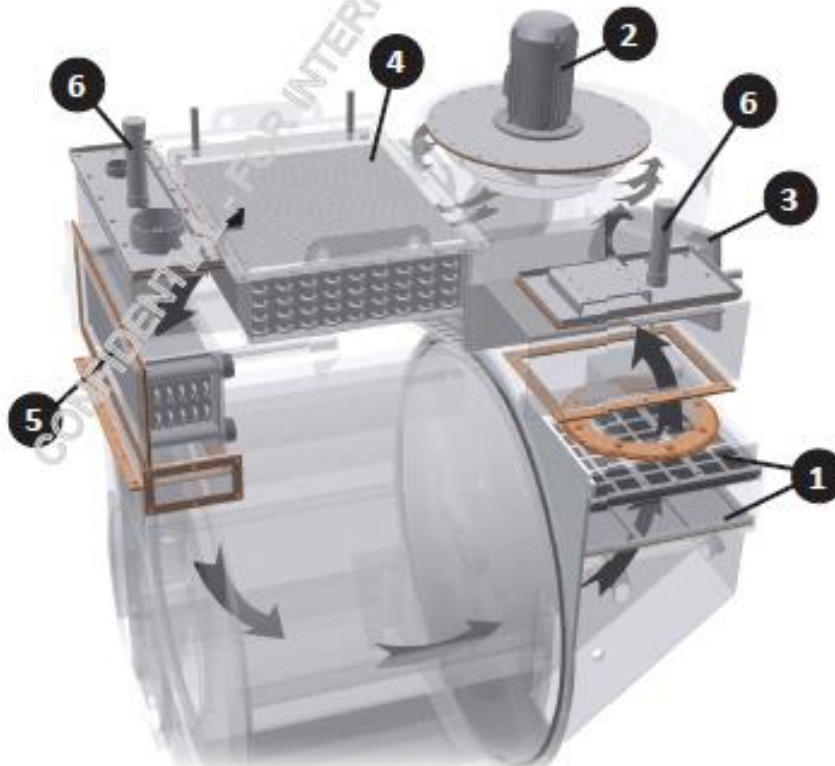
6) CLEANING CHAMBER ISOLATION CLAPET VALVE OPTIONAL

These valves allow the isolation of the drying chamber from the cleaning or washing chamber.

7) DRY CONTROL OPTIONAL

Automatically determines the drying time in relation to the type and quantity of the garments to be dried.

See chapter 14 - "Optional devices" for more information.





CAUSE	<p>The pressure switch PS004 (<i>see chapter 18</i>) set at safety pressure of 25 Bar (362,59 psi) triggers the alarm in the event that the Freon gas in the refrigeration circuit (<i>see chapter 09</i>) is under excessive pressure.</p> <p>This alarm disables all the functions and the “START/STEP” and the “STOP/RESET” keys will blink, accompanied by an acoustic signal.</p>
SOLUTION	<ul style="list-style-type: none"> • Check that the manual valve of the water inlet is open; • Check that the water channel consents regular water supply; • Check that the water filter is not dirty; • Check if the water flow coming from the line is equally distributed between the solvent condenser and the refrigerant condenser; • Check the water pressure; • Check that the pressure valve is correctly adjusted; • Check during the drying cycles, the refrigerator high pressure gauge; • Ensure that, after gas freon refilling by a qualified operator, an excessive quantity of gas has not been introduced into the circuit; • Check that the freon gas solenoid valve “EF34” works properly during drying cycles and that “EF35” during washing chamber cooling and solvent cooling works properly.
RECOVERY	<p>Before intervening, ensure that the pressure in the refrigerator unit drops; the display will now show the “ALARM END” signal.</p> <p>Press “START/STEP” on the computer control panel to return to the conditions of the programme previously interrupted.</p> <p>ONCE THAT THE PRESSURE IN THE REFRIGERATOR UNIT DROPS, THE MESSAGE “END ALARMS” DOESN’T APPEAR IMMEDIATELY, IT IS DELAYED OF 2 MINUTES.</p>