Epta		COQ Project:

VALZER KW Service Manual (short version)

VALZER KW

Service Manual

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14/10/2021

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1. AMOUNT OF REFRIGERANT IN THE EQUIPMENT

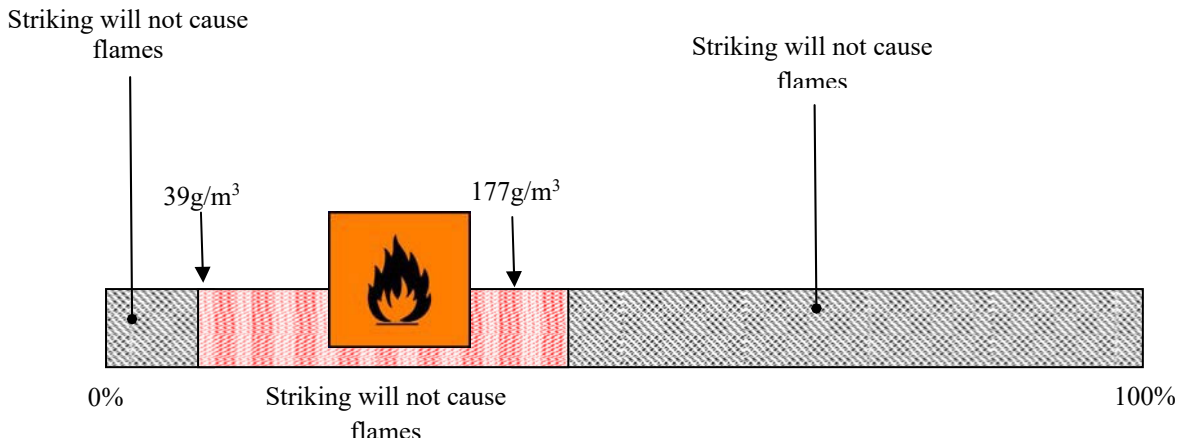
The most prominent feature of the VALZER KW versions is that they use a natural gas: propane (R290).

MODEL	AMOUNT OF PROPANE* [grams] / [Ounce]	
VALZER KW 2D	150 / 5,29	
VALZER KW 3D	150 + 150 / 5,29 + 5,29	
VALZER KW 4D	150 + 150 / 5,29 + 5,29	

(*) The propane refrigerant R290 to be used must be technical-gas rated, with purity grade above 99,5%.

PROPANE IS HEAVIER THAN AIR, WHICH MEANS THAT IT WILL TEND TO CONCENTRATE NEAR THE FLOOR OF THE ROOM.

The flammability limit percentage (in a volume of air) is between 2,2% and 9,2% (at 25°C and 1bar). In mass terms:

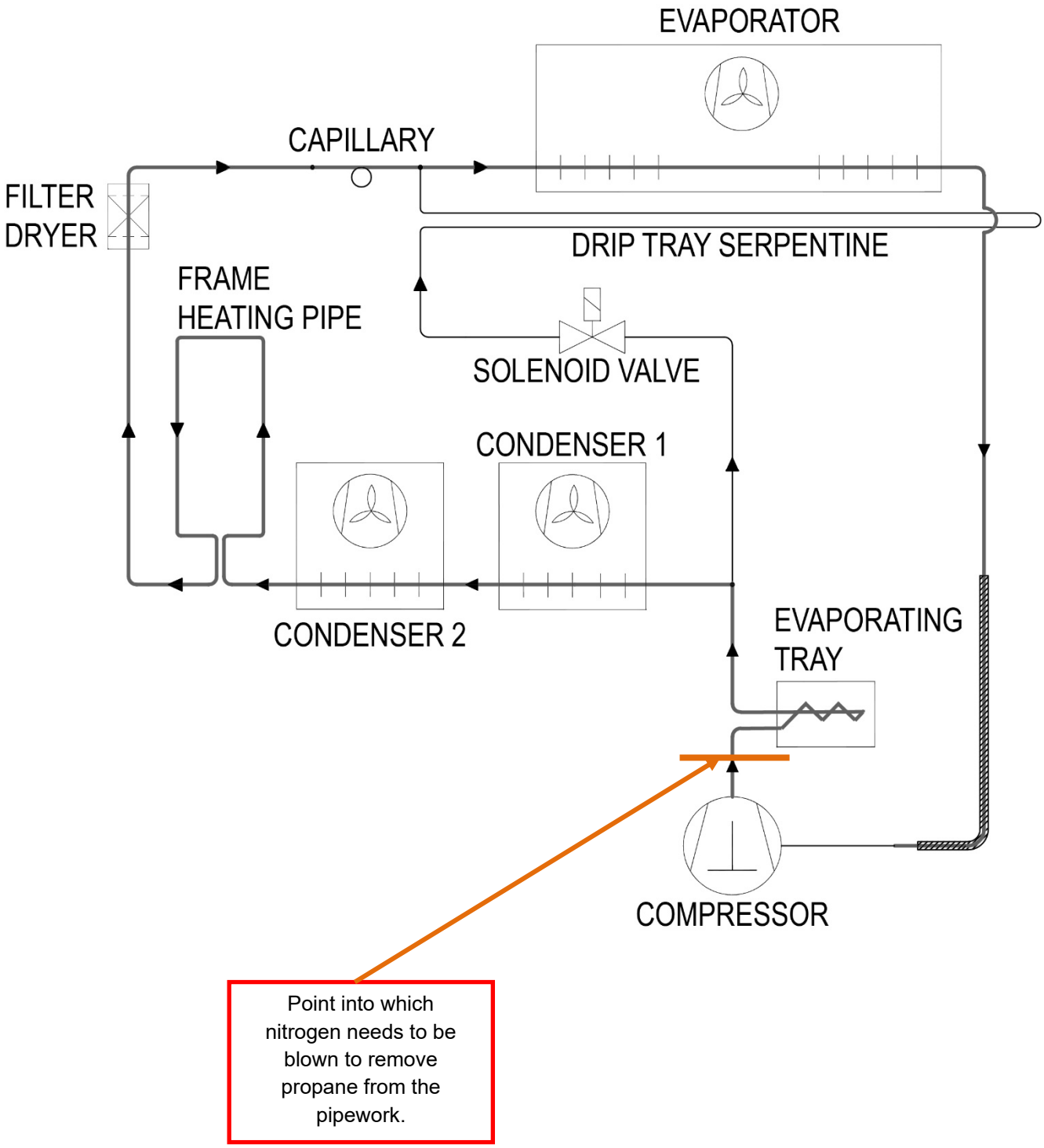


If the entire amount of refrigerant is released in the food compartment of VALZER KW, this would become a flammable zone.

2. REFRIGERATION SCHEMATICS FOR THE EQUIPMENT

2.1 REFRIGERATION DIAGRAM FOR THE COOLING CYCLE VALZER KW 2D

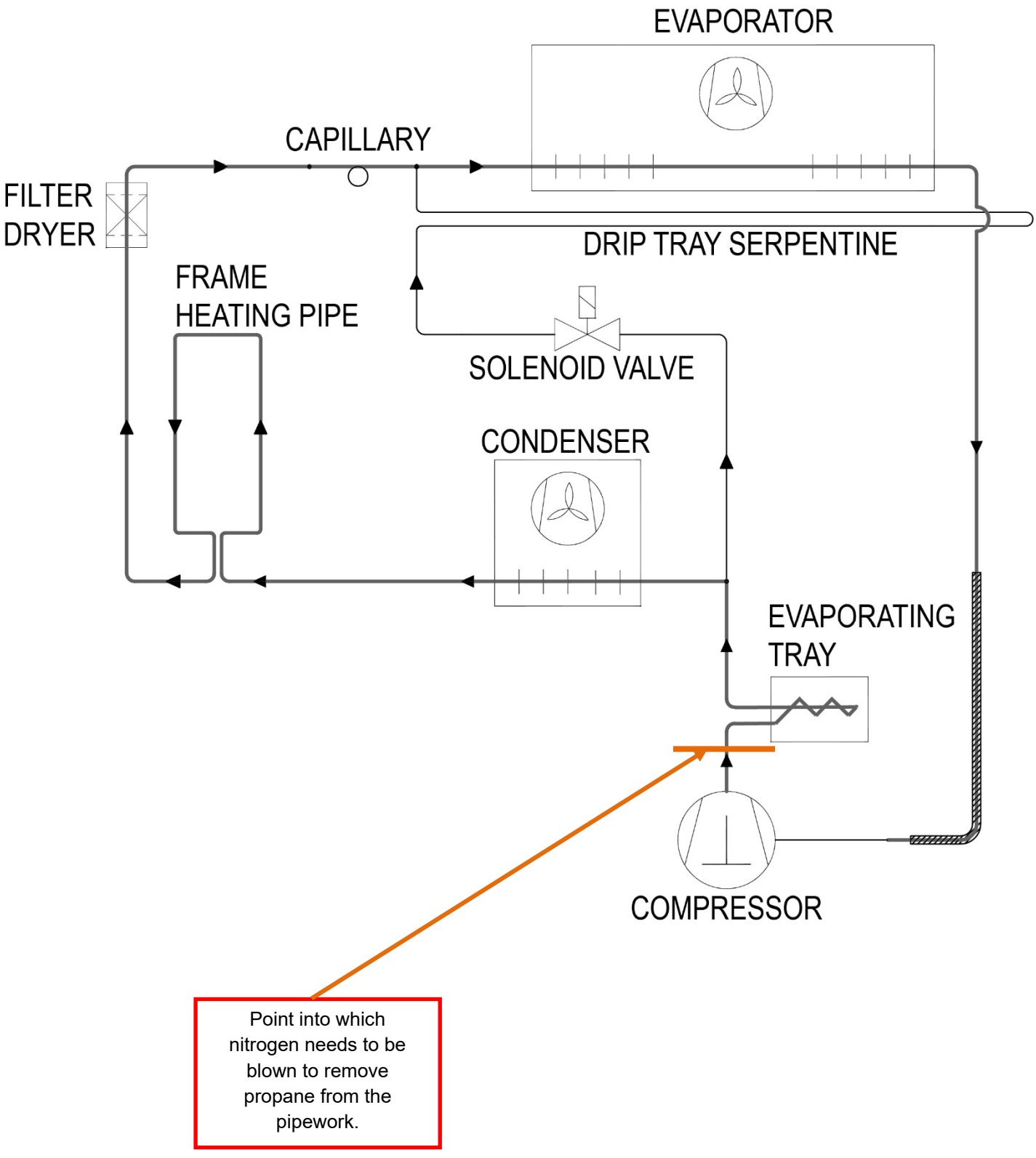
The compressor runs warm gas through evaporating tray, condensers and frame pipe.



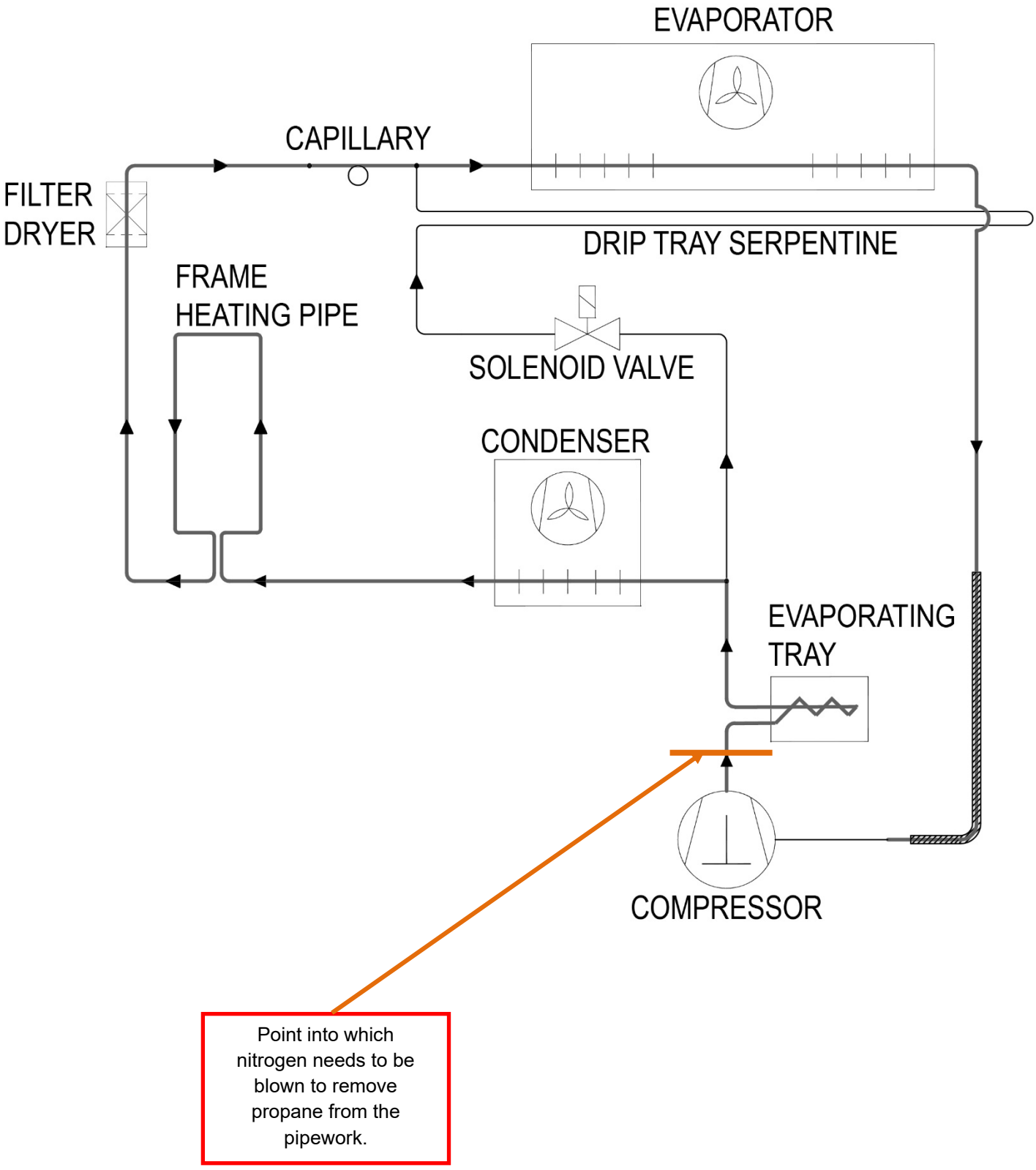
2.2 REFRIGERATION DIAGRAM FOR THE COOLING CYCLE VALZER KW 3D

The compressor runs warm gas through evaporating tray, condensers and frame pipe.

GROUP 1



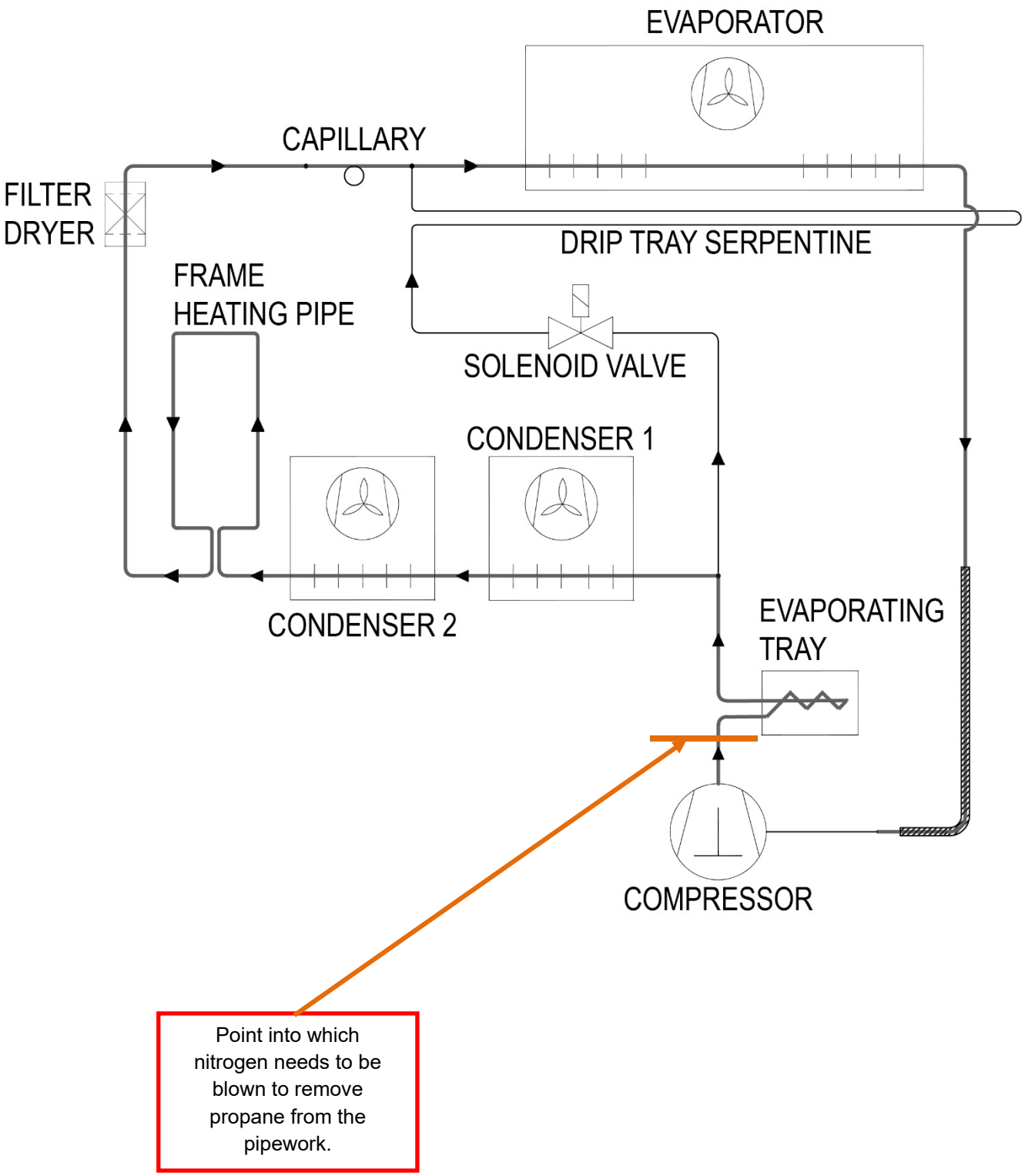
GROUP 2



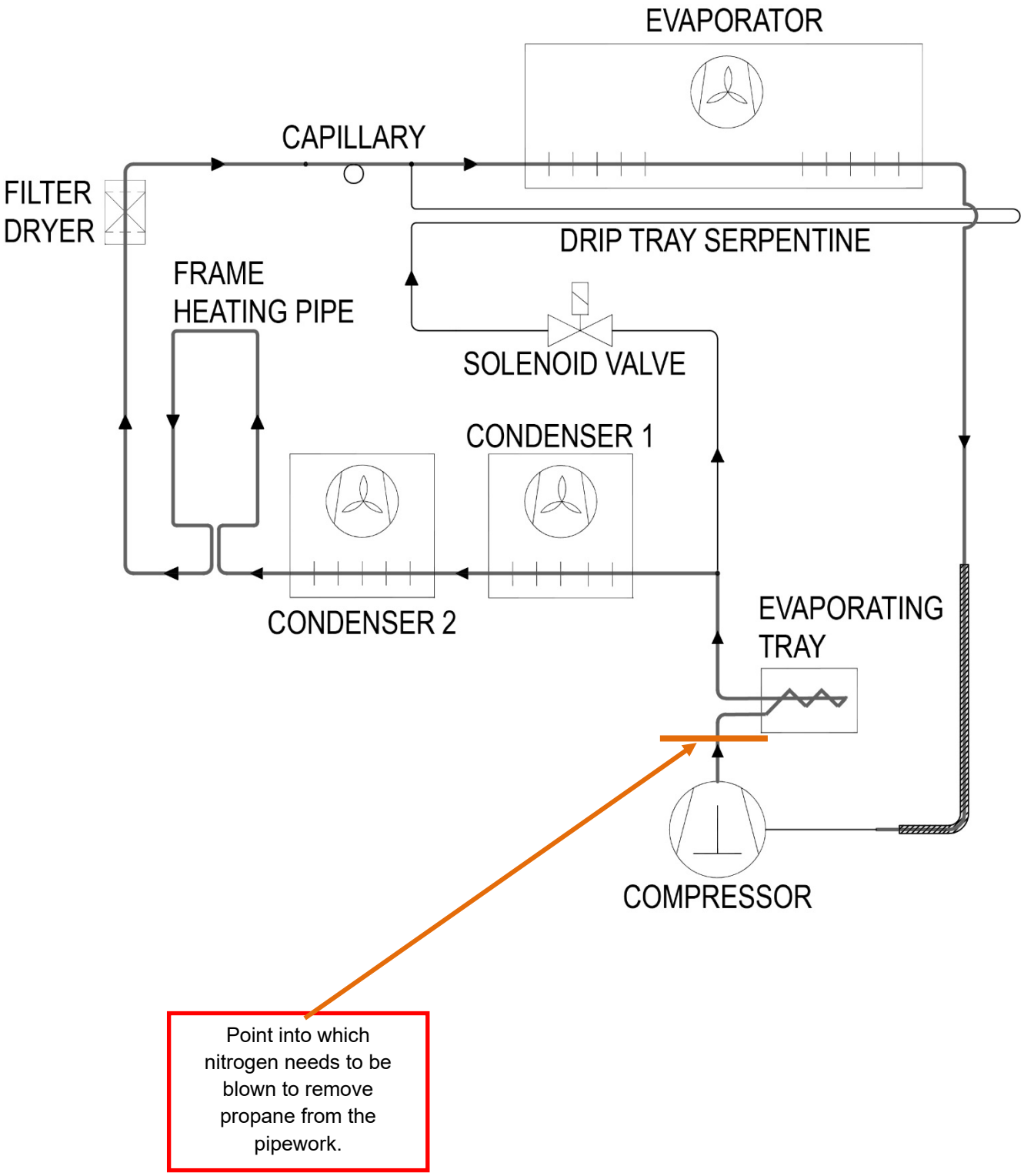
2.3 REFRIGERATION DIAGRAM FOR THE COOLING CYCLE VALZER KW 4D

The compressor runs warm gas through evaporating tray, condensers and frame pipe.

GROUP 1

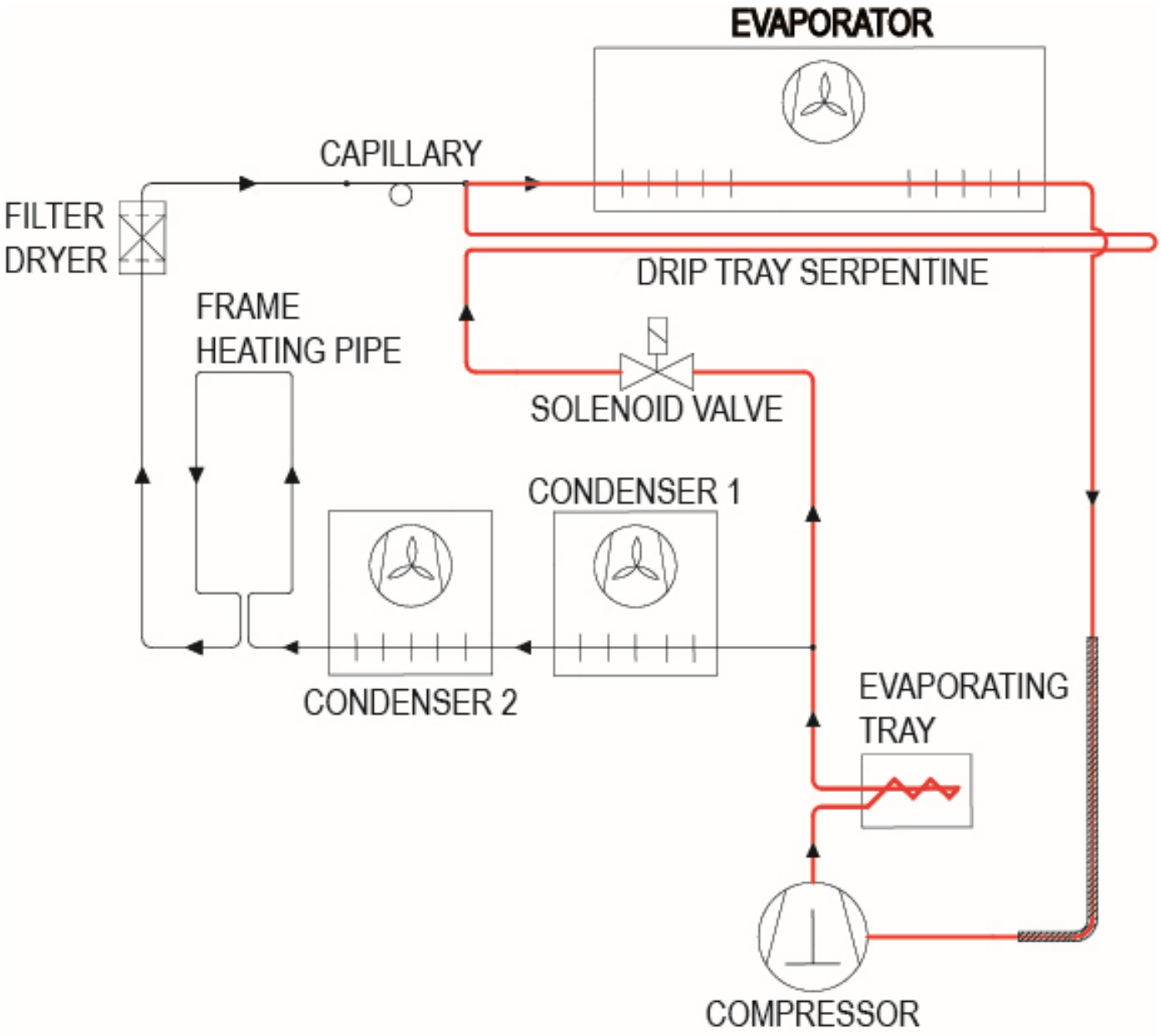


GROUP 2



2.4 REFRIGERATION DIAGRAM FOR THE DEFROST CYCLE VALZER KW 2D

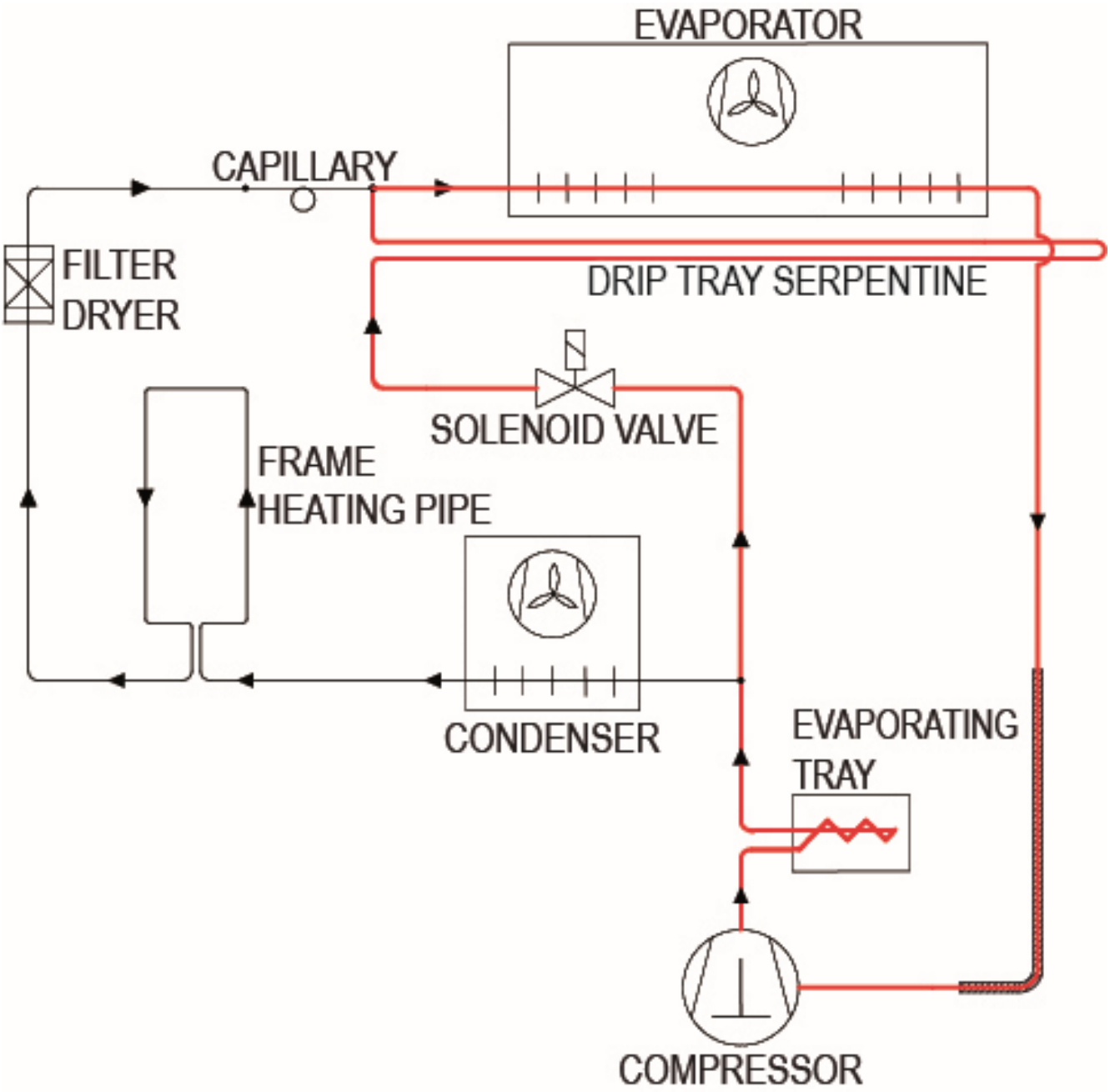
The NC solenoid valve opens and allow gas to run through the drip tray serpentine and then into the evaporator.



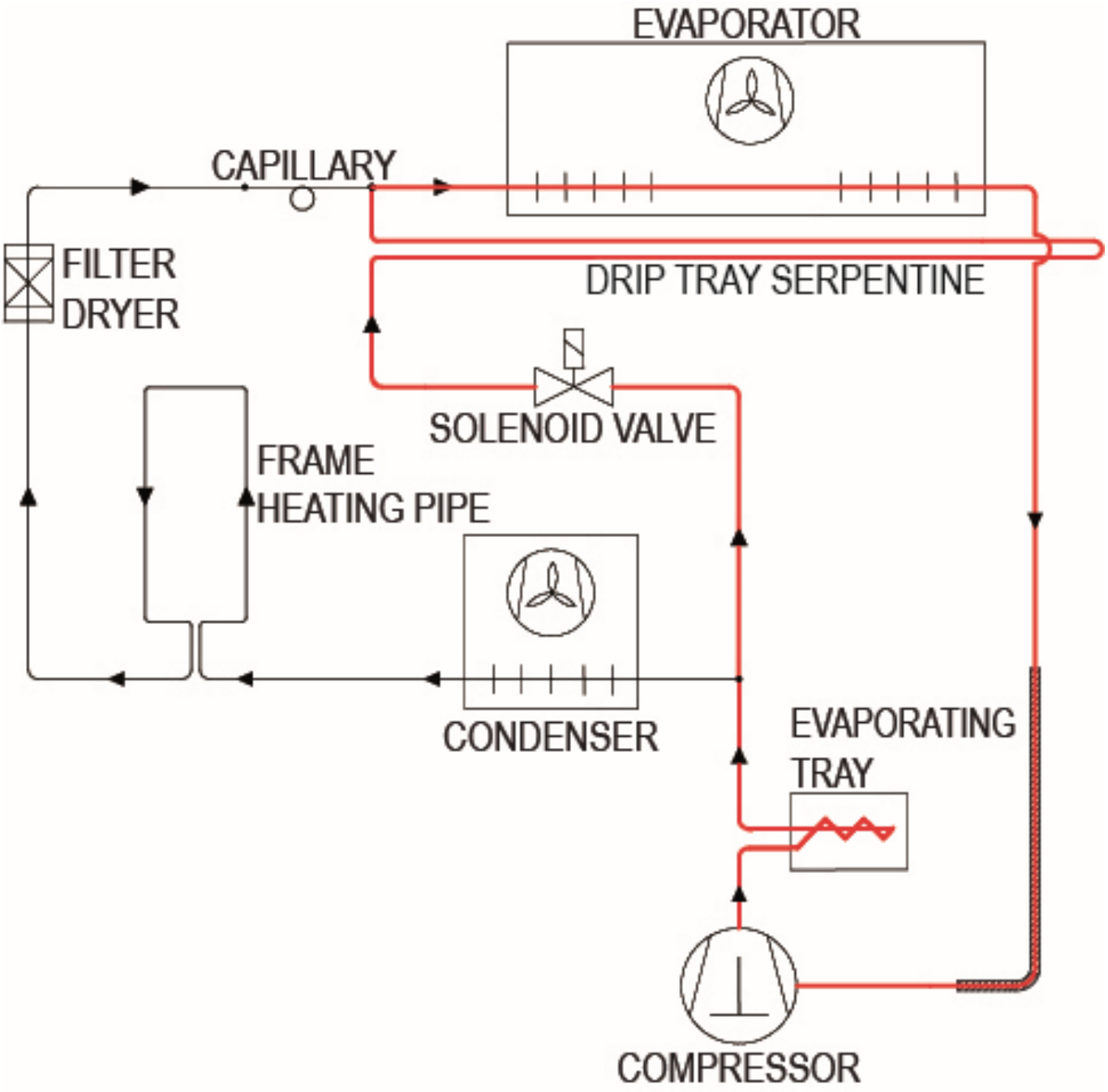
2.5 REFRIGERATION DIAGRAM FOR THE DEFROST CYCLE VALZER KW 3D

The NC solenoid valve opens and allow gas to run through the drip tray serpentine and then into the evaporator.

GROUP 1



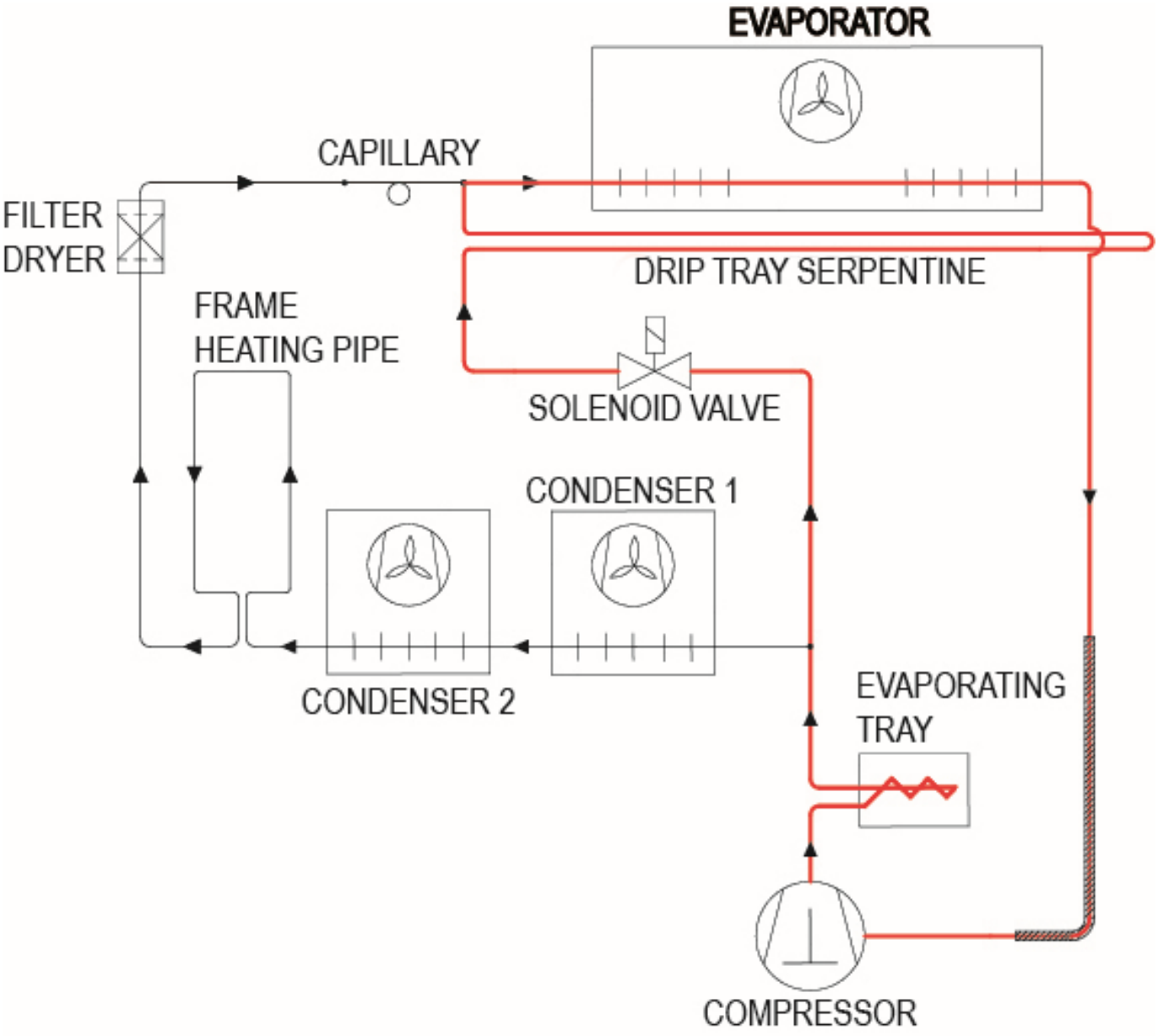
GROUP 2



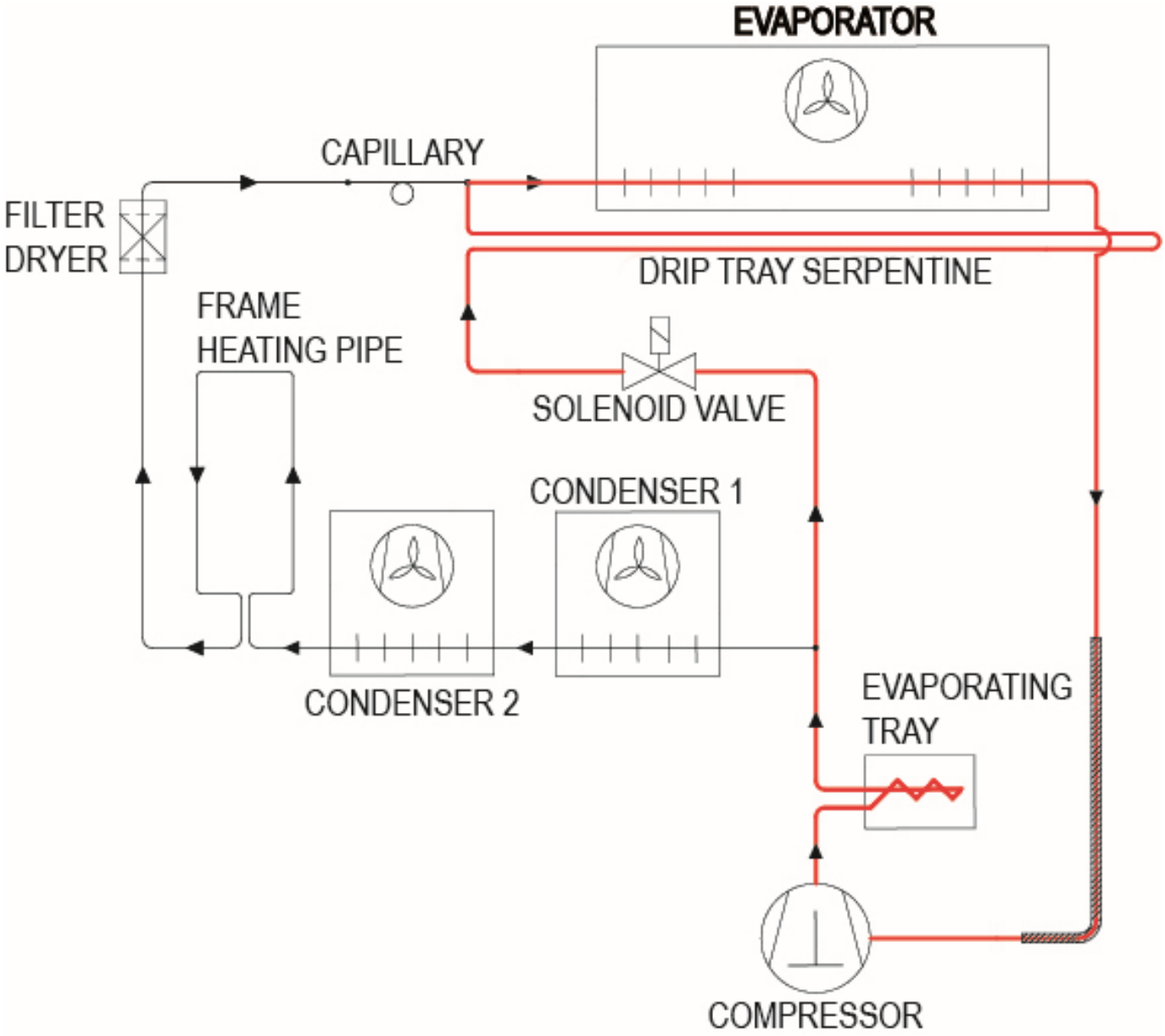
2.6 REFRIGERATION DIAGRAM FOR THE DEFROST CYCLE VALZER KW 4D

The NC solenoid valve opens and allow gas to run through the drip tray serpentine and then into the evaporator.

GROUP 1

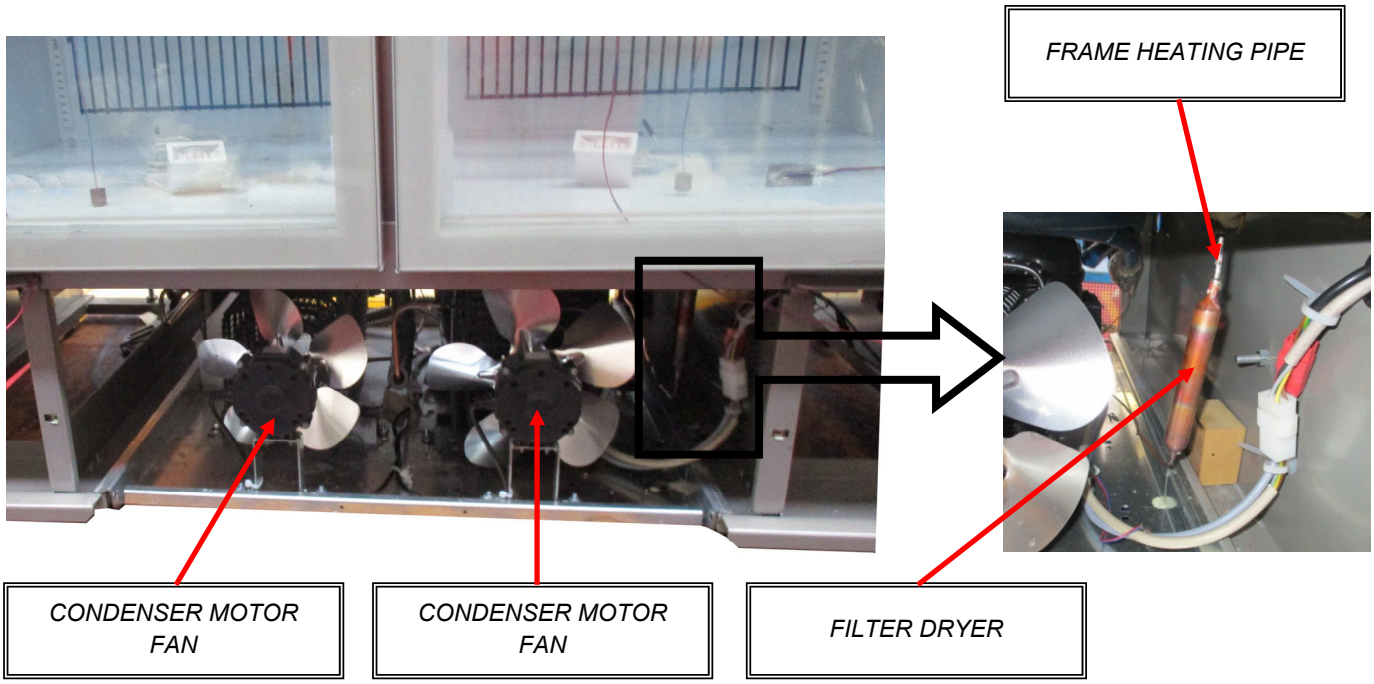


GROUP 2

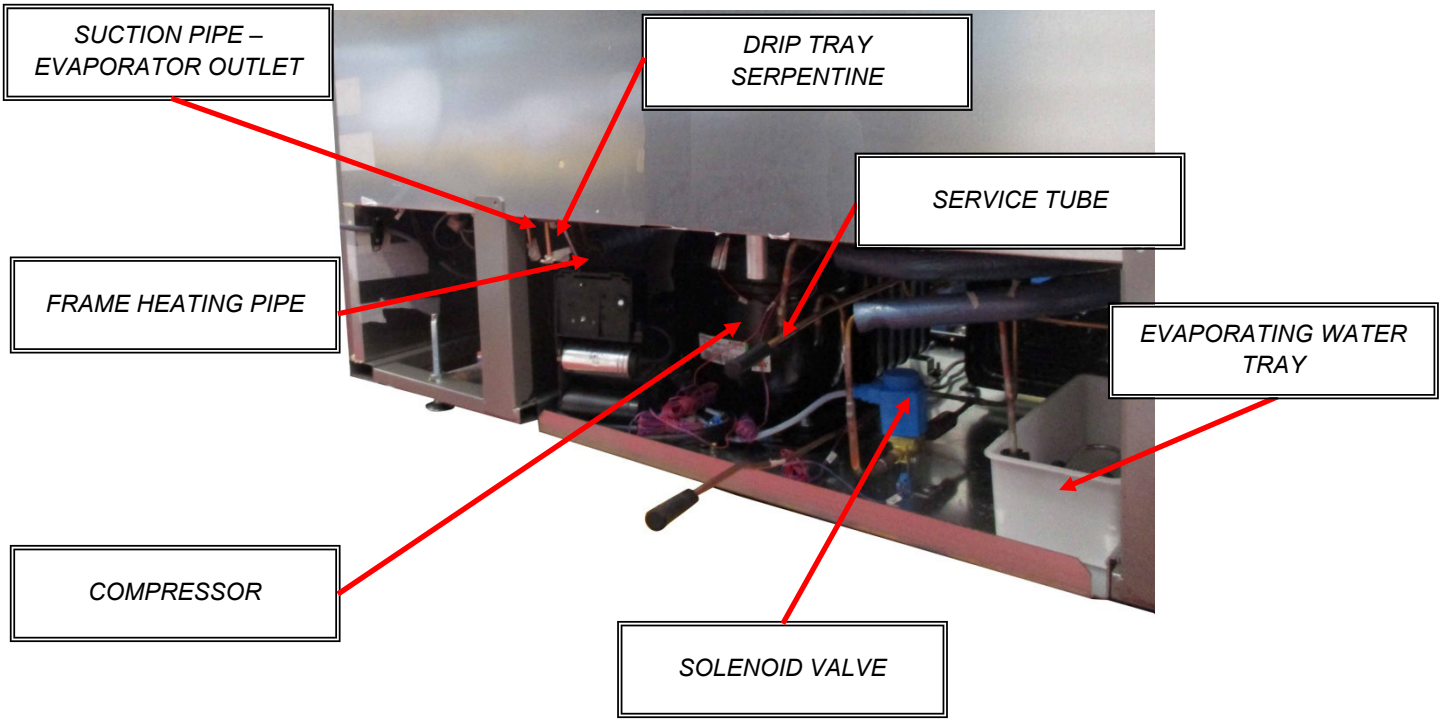


2.7 VIEW OF THE MOTOR COMPARTMENT AND RELEVANT PIPEWORK VALZER KW 2D

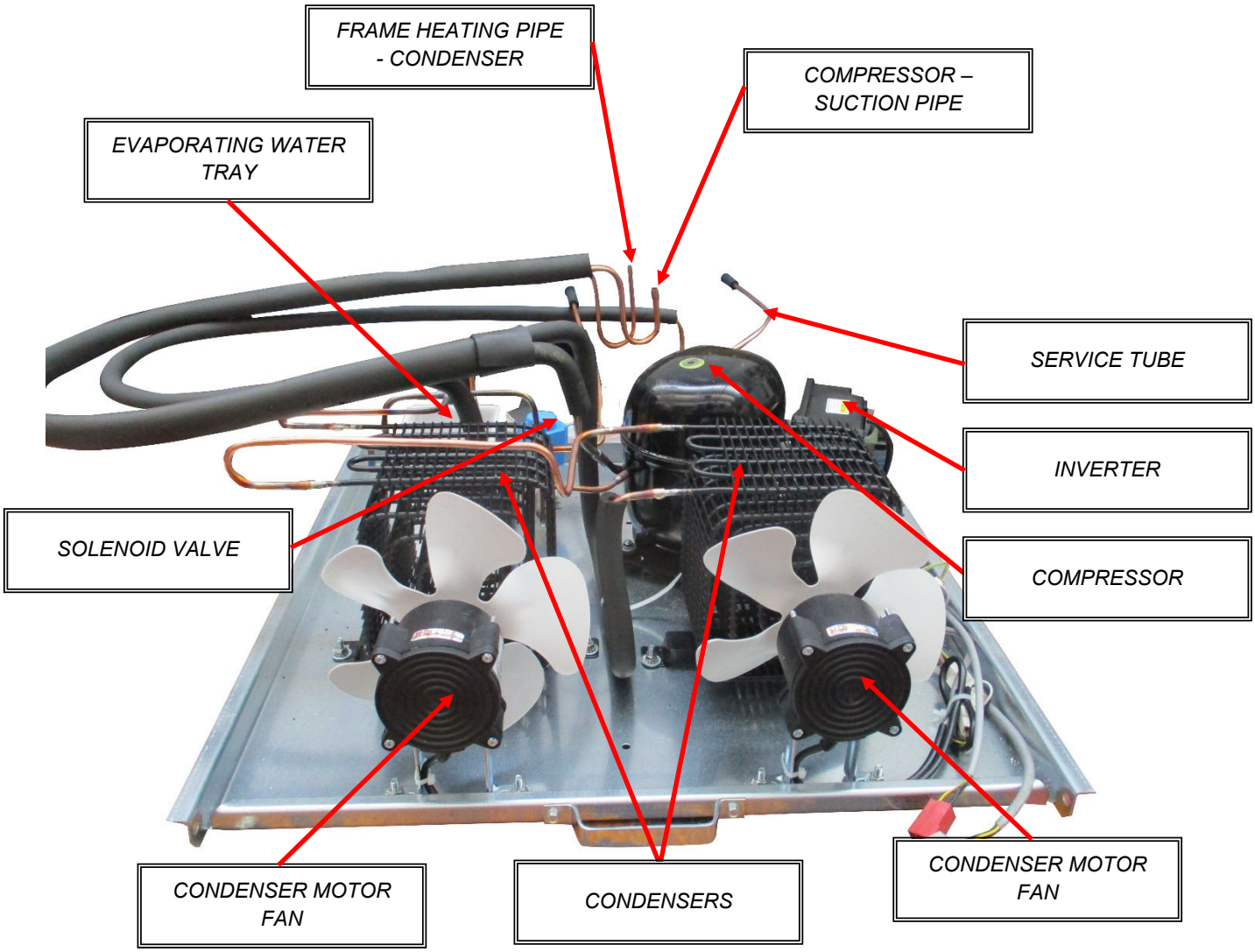
VIEW OF MOTOR COMPARTMENT – FRONT SIDE



VIEW OF MOTOR COMPARTMENT – REAR SIDE

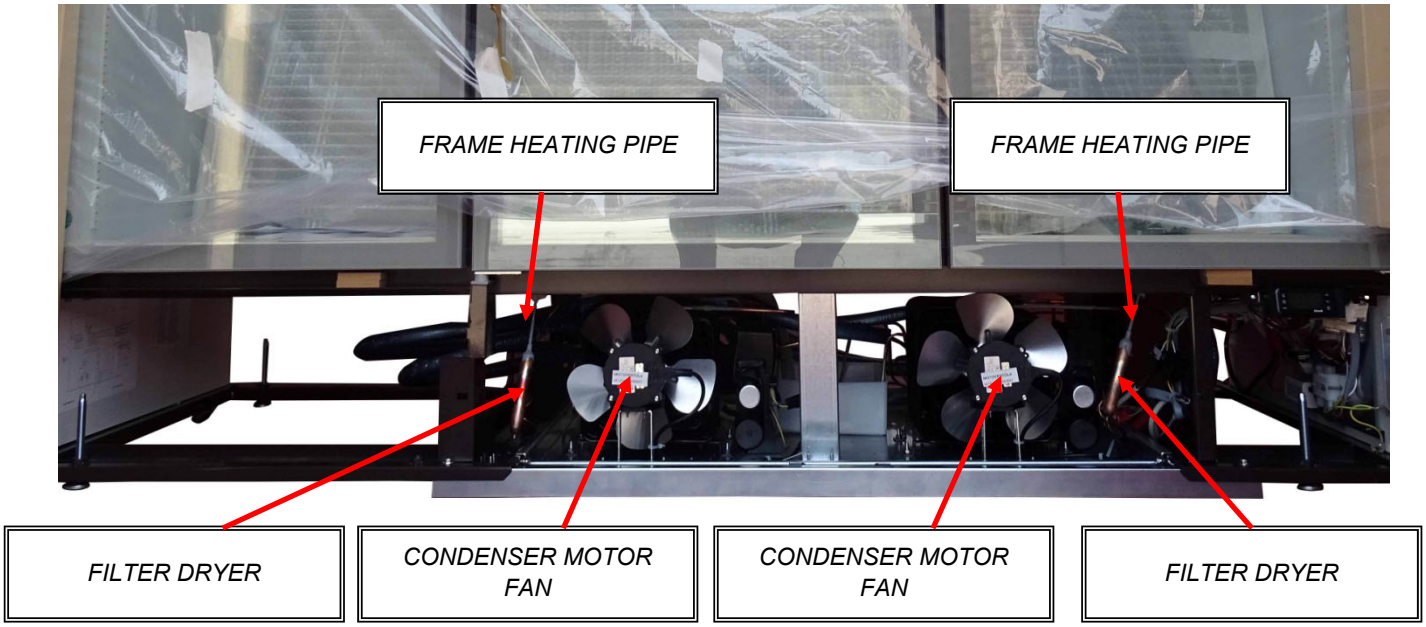


VIEW OF MOTOR COMPARTMENT – MOTOR HOUSING

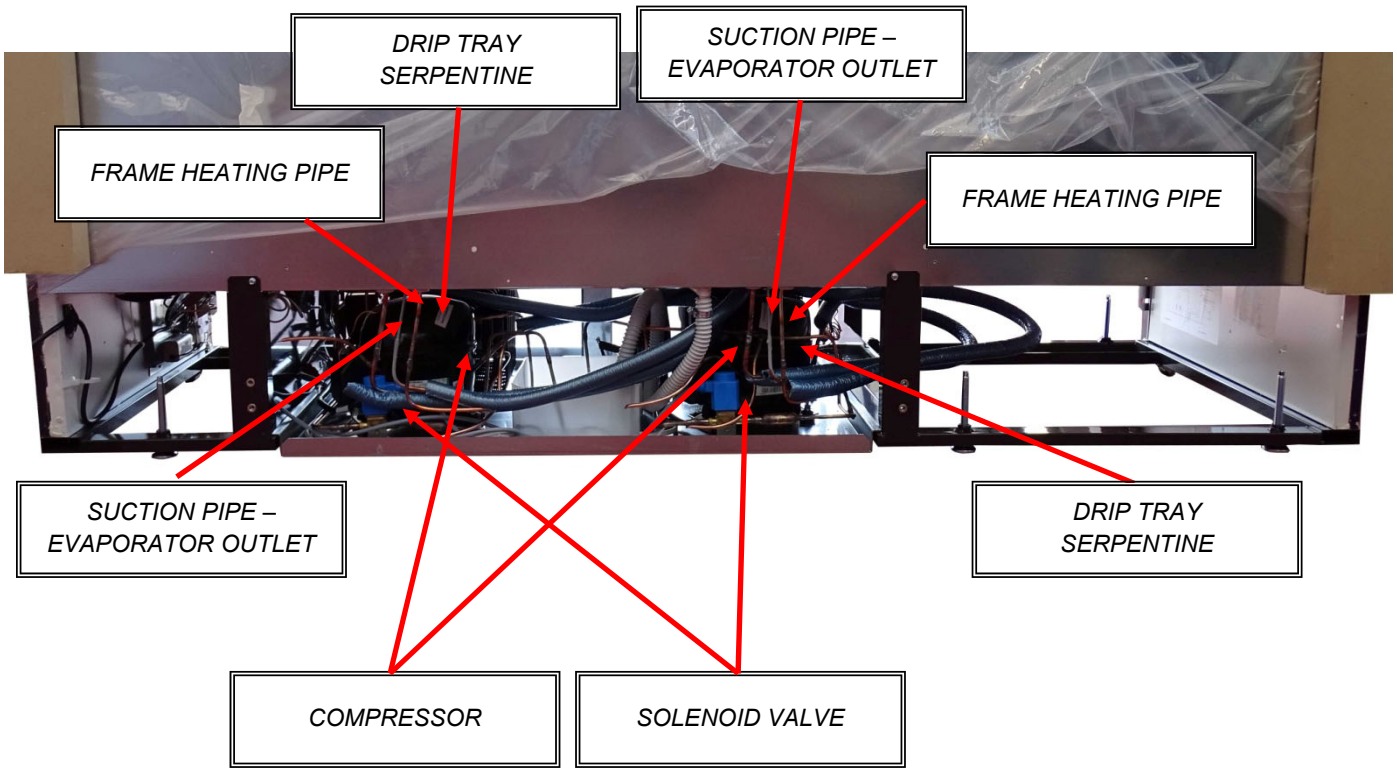


2.8 VIEW OF THE MOTOR COMPARTMENT AND RELEVANT PIPEWORK VALZER KW 3D

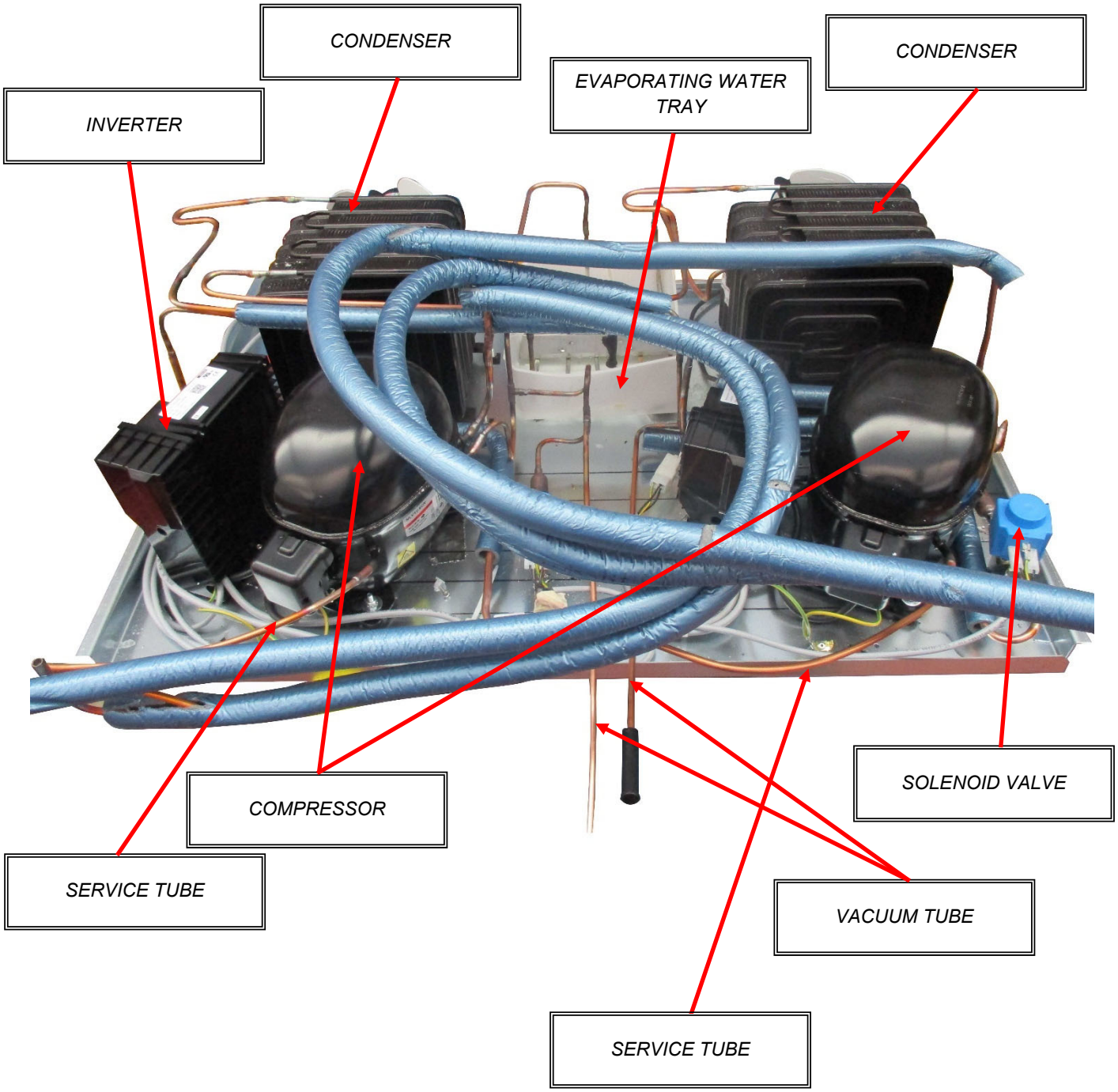
VIEW OF MOTOR COMPARTMENT – FRONT SIDE



VIEW OF MOTOR COMPARTMENT – REAR SIDE



VIEW OF MOTOR COMPARTMENT – MOTOR HOUSING



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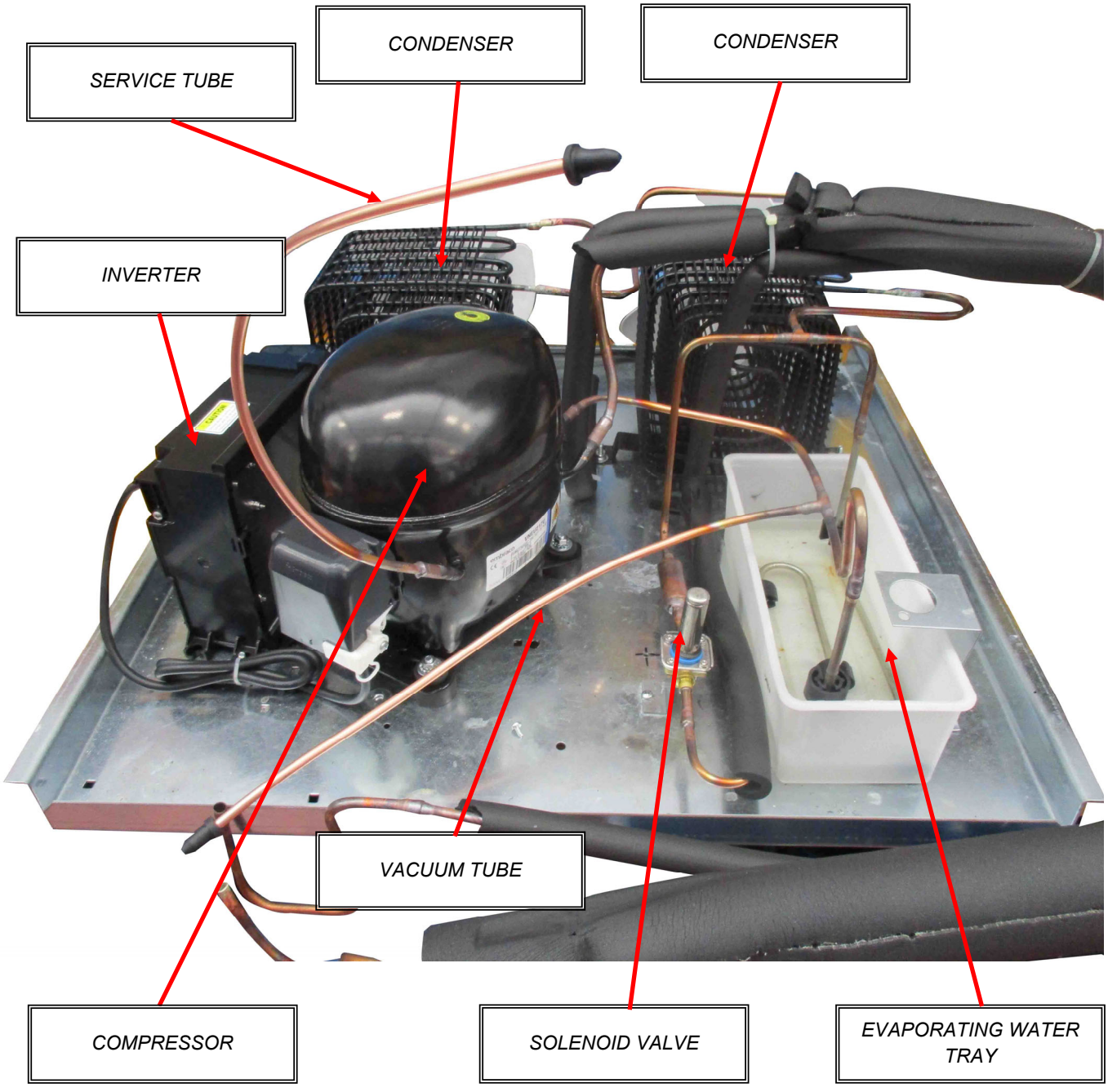
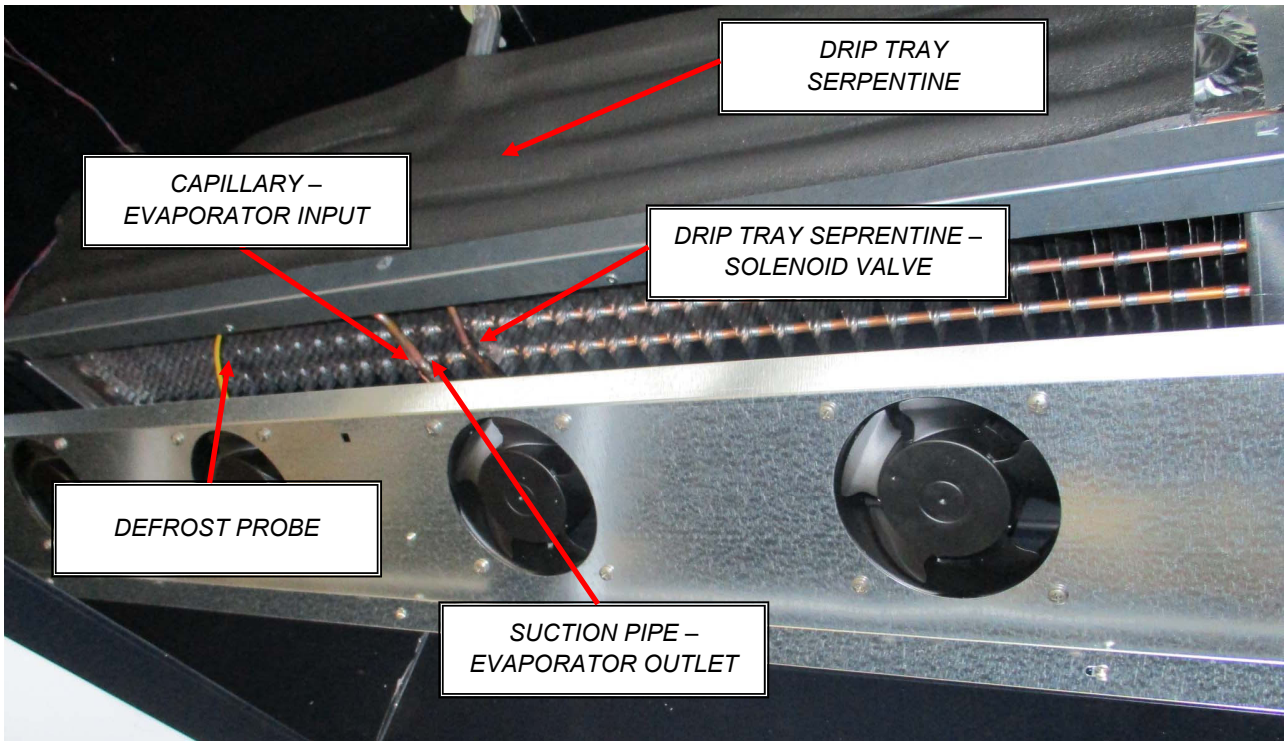
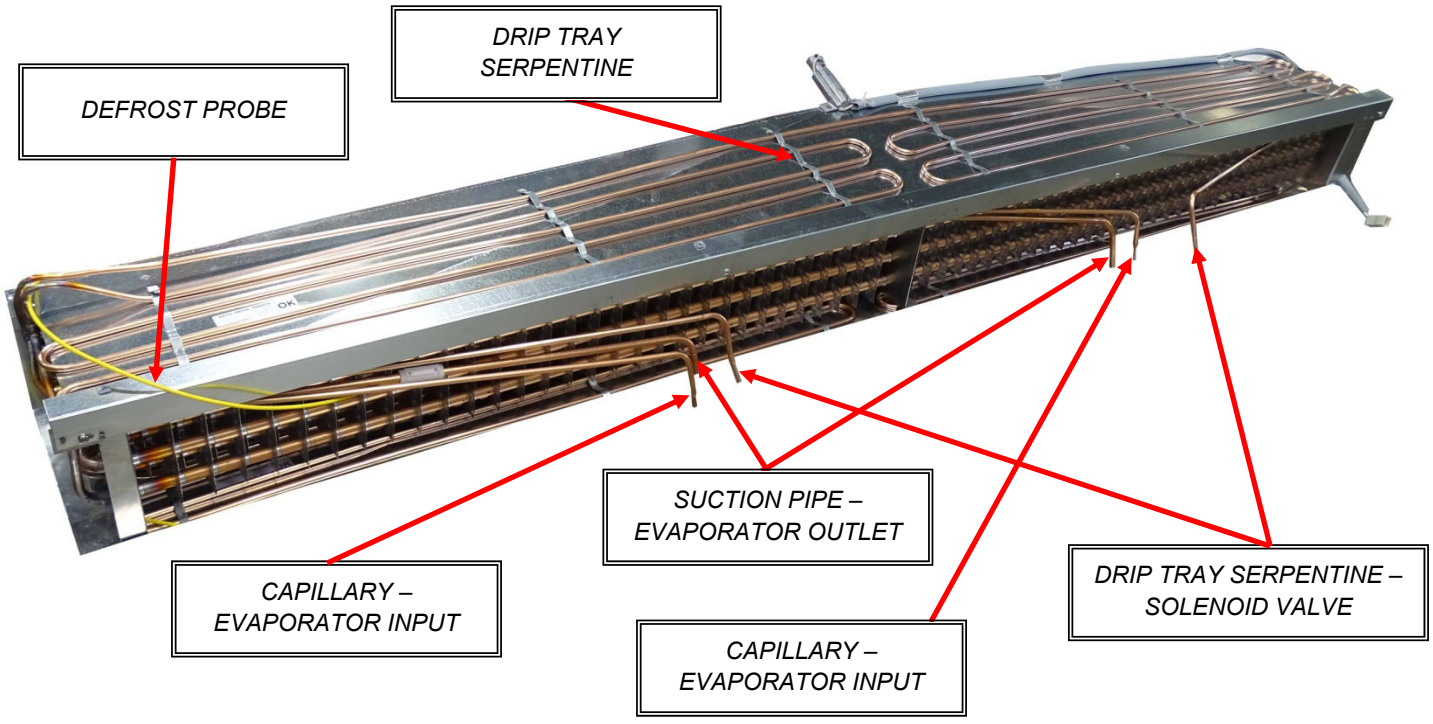
VIEW OF MOTOR COMPARTMENT – MOTOR HOUSING



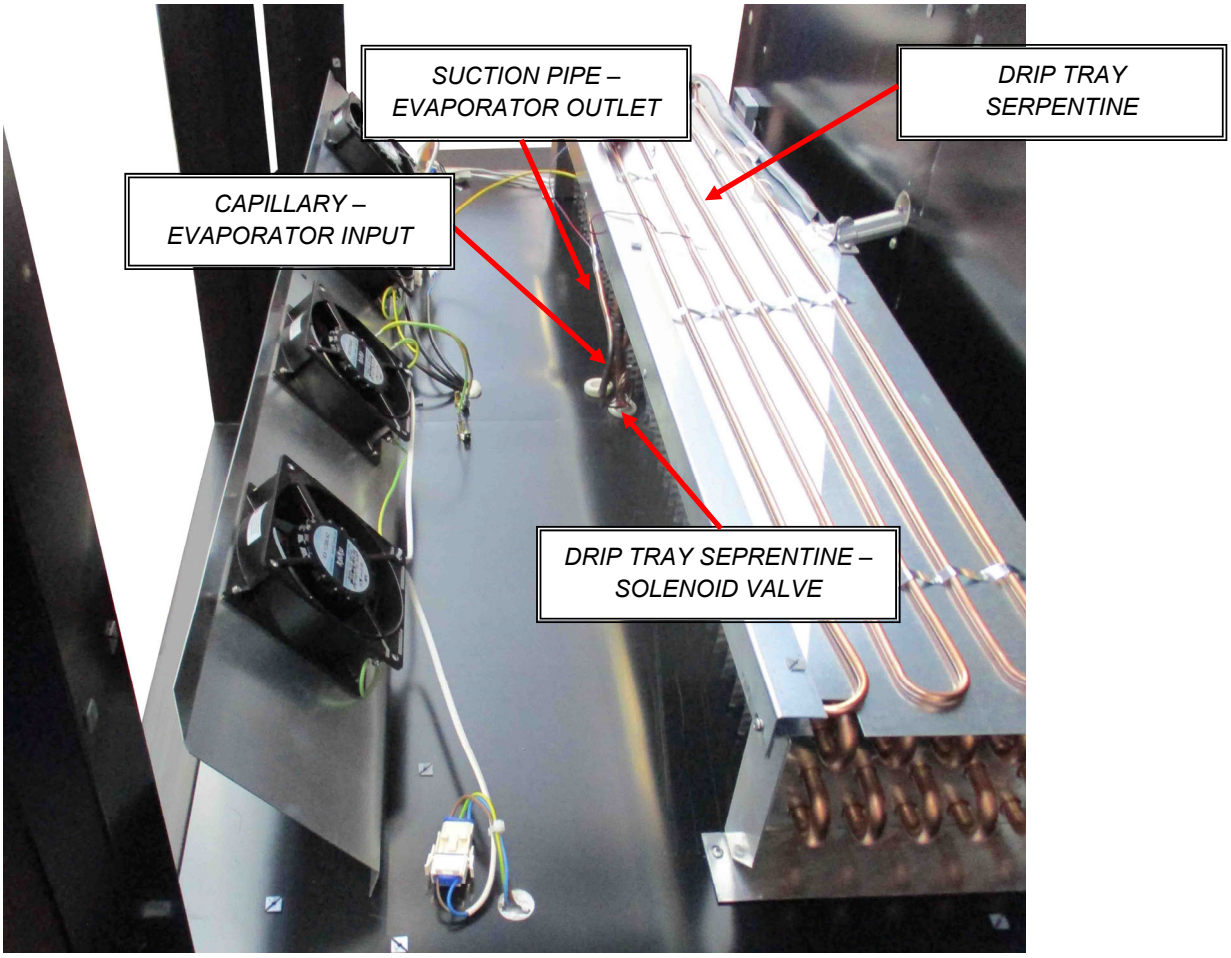
2.10 VIEW OF THE EVAPORATOR COMPARTMENT AND RELEVANT PIPEWORK – VALZER KW 2D



2.11 VIEW OF THE EVAPORATOR COMPARTMENT AND RELEVANT PIPEWORK – VALZER KW 3D



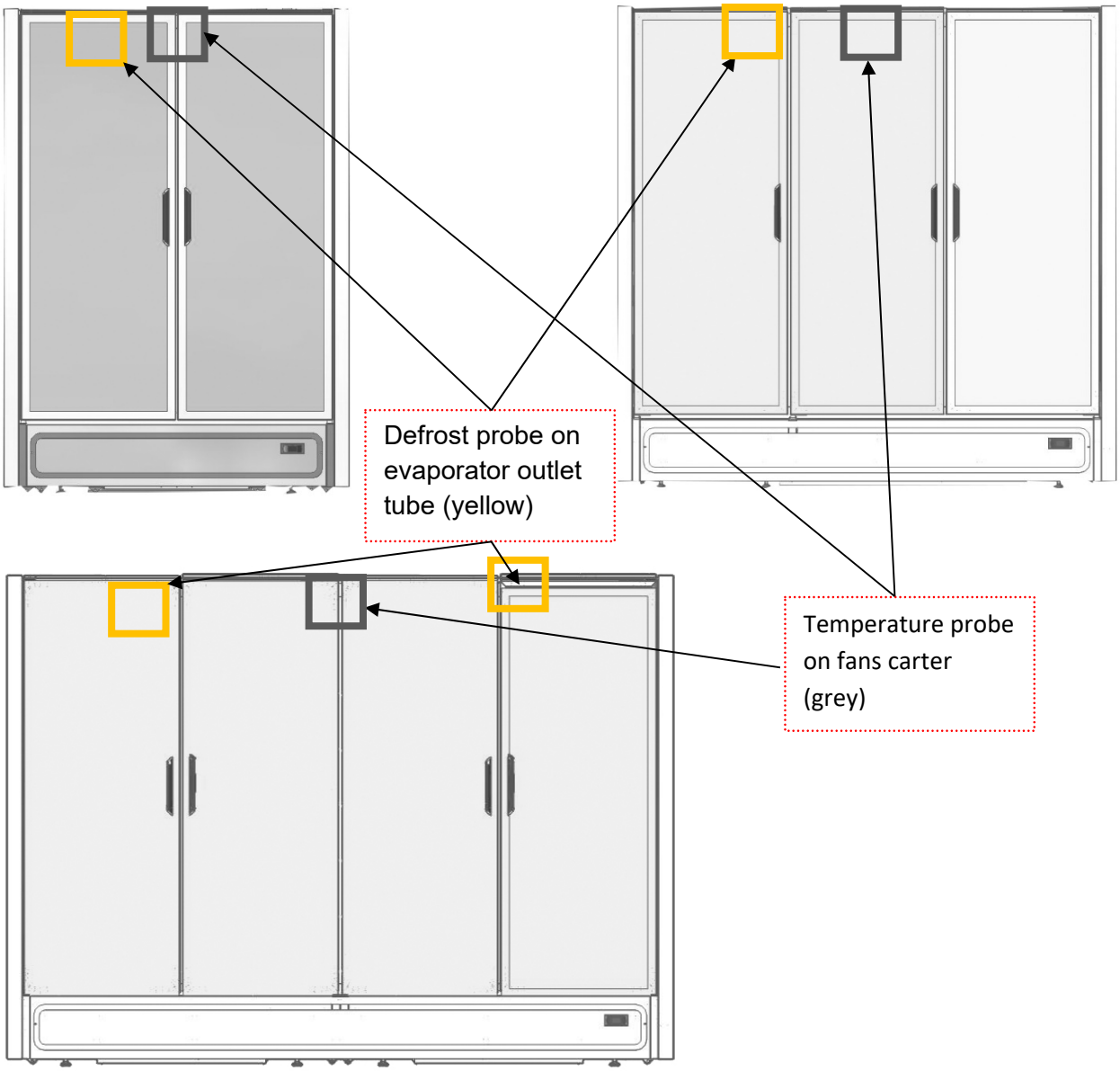
2.12 VIEW OF THE EVAPORATOR COMPARTMENT AND RELEVANT PIPEWORK – VALZER KW 4D



3. POSITION OF PROBES IN THE CABINET

There are two probes in the VALZER KW 2D, VALZER KW 3D and VALZER KW 4D.

Front view:



Model	*Position of probe*	Probe Colour	Function	Probe Epta code
VALZER KW 2D	Evaporator Tank	Yellow Gray	Defrost end Display - Thermostat	I0205786 I0205739
VALZER KW 3D	Evaporator Tank	Yellow Gray	Defrost end Display - Thermostat	I0205786 I0205713
VALZER KW 4D	Evaporator Tank	Yellow Gray	Defrost end Display - Thermostat	I0205786 I0205739

4. ALARMS (Dixell Controller)

ALARM	CAUSE	CONSEQUENCES
"P1"	Temperature probe damaged	Compressor running with fixed on/off periods (parameters "Con" and "CoF")
"P2"	Evaporator probe damaged	Defrost ended for timeout (parameter "MdF")

5. REPLACEMENT OF COMPONENTS AND REPAIR OF A LEAK

The instructions below, which involve opening the refrigerating circuit, must be performed in a place with sufficient air circulation and not in the sales area.

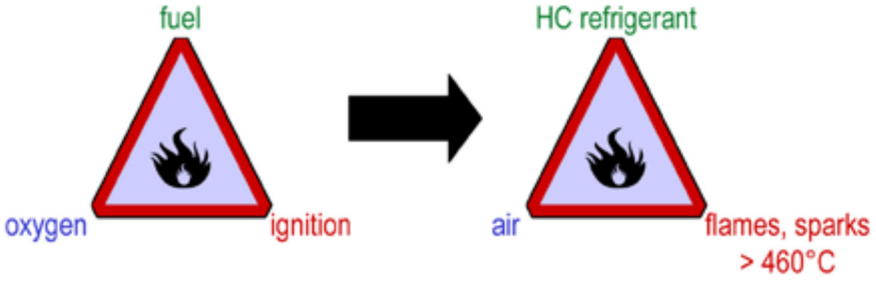
5.1 SAFE OPERATING PROCEDURES FOR REFRIGERATION UNITS USING R290

Before carrying out any kind of maintenance operation on the refrigerator, make sure that the machine is disconnected from power (unplugged).

R290 (Propane CH3CH2CH3) is a flammable natural refrigerant (Hydrocarbon HC) having lower explosive limit (LEL %V/V) = 1.7.

The very low quantity of refrigerant used and the safe design (possible ignition sources far from the potential explosive areas) make this unit totally safe in use. Caution must be used during servicing and with this respect it is essential to understand the basic concept of flammability.

Three ingredients are needed for a fire: a fuel at the right concentration, a supply of oxygen (normally from air) and a source of ignition. The common way of illustrating this is by means of the fire triangle.



Eliminating at least one but preferably two of these ingredients fire can be prevented.
In order to achieve this, three general guidelines should be followed during servicing:
F1. Containment of the substance;
F2. Avoidance of ignition sources;
F3. Use of ventilation.

F1. Containment

The flammable substances must be kept within a suitably designed and constructed "container", be it a suitable cylinder or a refrigeration system. If the substance leaks, it should be prevented from spreading to other areas.

F2. Ignition sources

Ensure that all the obvious and unobvious ignition sources have been removed from the equipment and handling areas. Ignition sources can vary greatly and may include sparks from electrical equipment or welding and cutting tools, hot surfaces, open flames from heating equipment, smoking materials, etc.

F3. Ventilation

There should be adequate airflow where flammable substances are stored and used.
Good ventilation will mean that any vapor arising from a leak or a release will be rapidly dispersed. In case one of the components of the refrigerating hermetic circuit (compressor, dryer, condenser, evaporator, capillary) needs to be serviced, the basic safe guideline must be always followed:

NEVER USE FLAMES OR HEAT SOURCES IF FLAMMABLE REFRIGERANT IS PRESENT INSIDE THE REFRIGERATING CIRCUIT

Flames can be used only when there is evidence that no flammable substance is still inside the circuit or the circuits; IN CASE OF MULTIPLE CIRCUITS NONE OF THEM MUST CONTAIN FLAMMABLE SUBSTANCES in case heat sources are to be used: all circuits need to be emptied and absence of flammable substances must be proved.

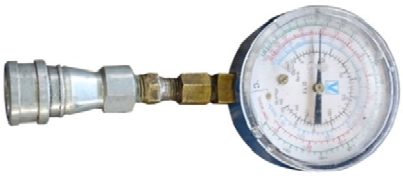
IMPORTANT
Provisions for all jobs involving the opening of the refrigerating circuit:

- SHUT DOWN THE POWER SUPPLY
- MANDATORILY WEAR GLOVES AND GLASSES
- DO NOT WORK WITH OPEN FLAMES BEFORE THE PIPEWORK HAS BEEN CUT!
- REMOVE ALL SPARK SOURCES FROM THE WORKING AREA (LIGHTERS, LAMPS, CIGARETTES).

5.2 PROTECTION TOOLS AND DEVICES FOR SERVICEMENT

Protection tools:

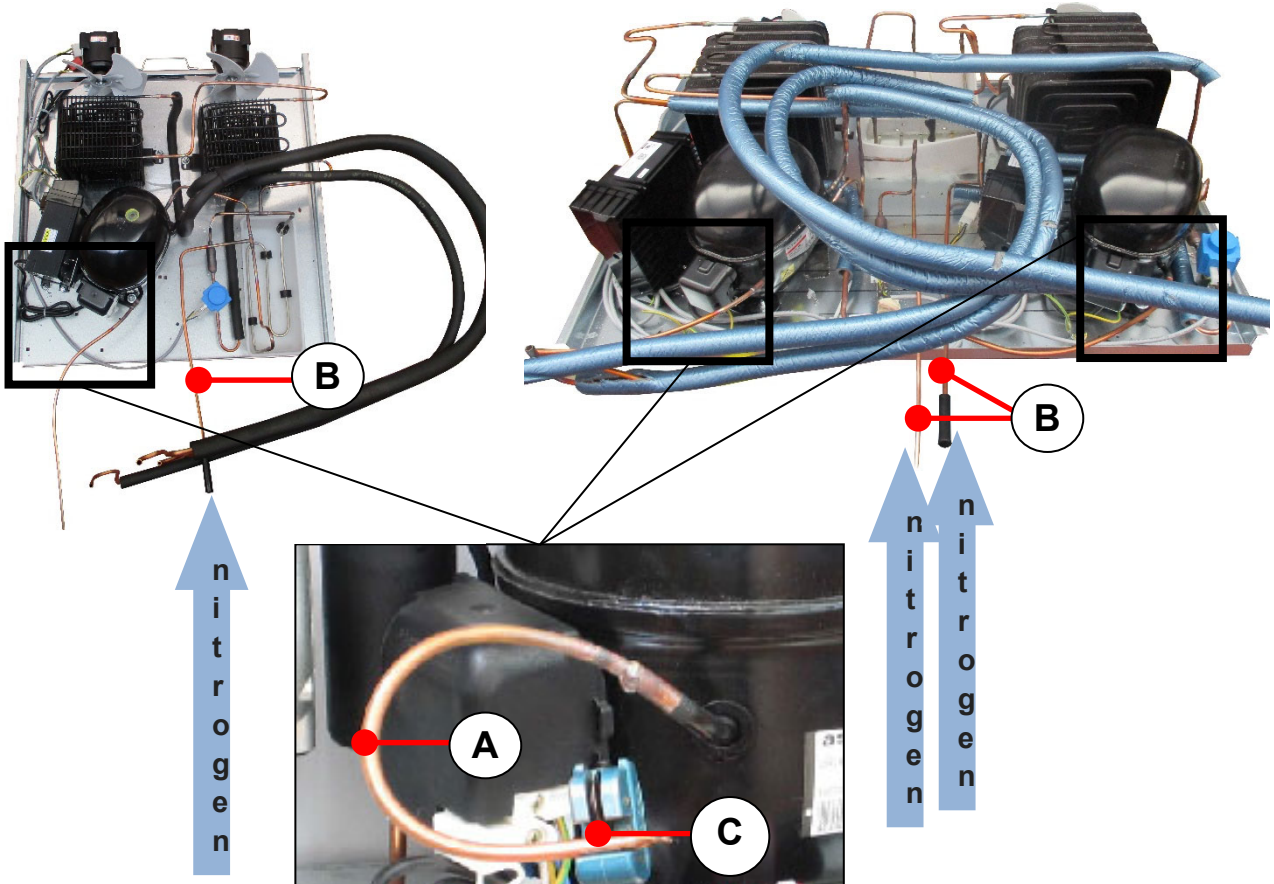
Devices for service personnel:

	**LOW PRESSURE SUCTION GAUGE**
	**REFRIGERANT PLIER**
	**ELECTRONIC LEAK DETECTOR**
	**REFRIGERANT JUNCTIONS**
	**LOKRING JOINT PLIER**
	**LOKRING CAP**
	**REFRIGERANT GAS CONTAINER**
	**NITROGEN GAS BOTTLE**

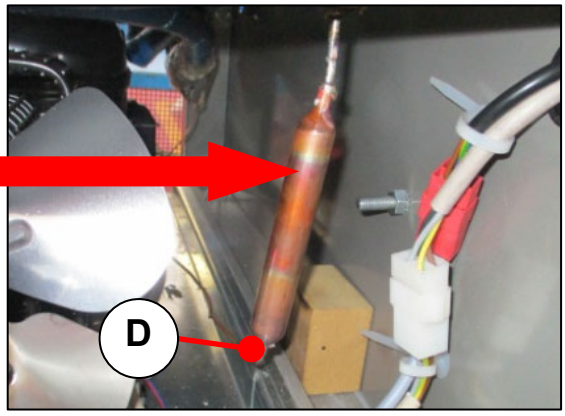
	**REFRIGERANT SCALE**
	**VACUUM PUMP**
	**LOKPREP SEALANT**
	**ORBITAL CUTTER**
	**SCREWDRIVER**
	**WRENCH n°10**

5.3 HOW TO EMPTY THE COOLING CIRCUIT AND TEST IT BEFORE SERVICING

The refrigerating unit has a double servicing pipe, on the low (**A**) and on the high (**B**) pressure sides: in order to totally remove the flammable refrigerant from the refrigerating circuit both pipes are to be opened by using an orbital cutter (**C**).
Cut the capillary tube (**D**) exiting the filter dryer.
When the inside pressure is equalized with the ambient pressure, blow nitrogen at 10 bars in the circuit through the service pipe on high pressure side (**B**) and check that it flows out through the other service pipe on the low pressure side; continue to blow nitrogen for at least 5 minutes.
At the end of this procedure **NO FLAMMABLE REFRIGERANT CAN REMAIN INSIDE THE CIRCUIT IN SUCH A QUANTITY TO BE DANGEROUS WHEN FLAMES OR HEAT SOURCES ARE USED**.



Also cut the pipe entering the filter and replace the filter dryer with a new one.



5.4 COMPRESSOR REPLACEMENT

VALZER KW 2D
Epta code: 21848070
Model: EMBRACO VNEU217U

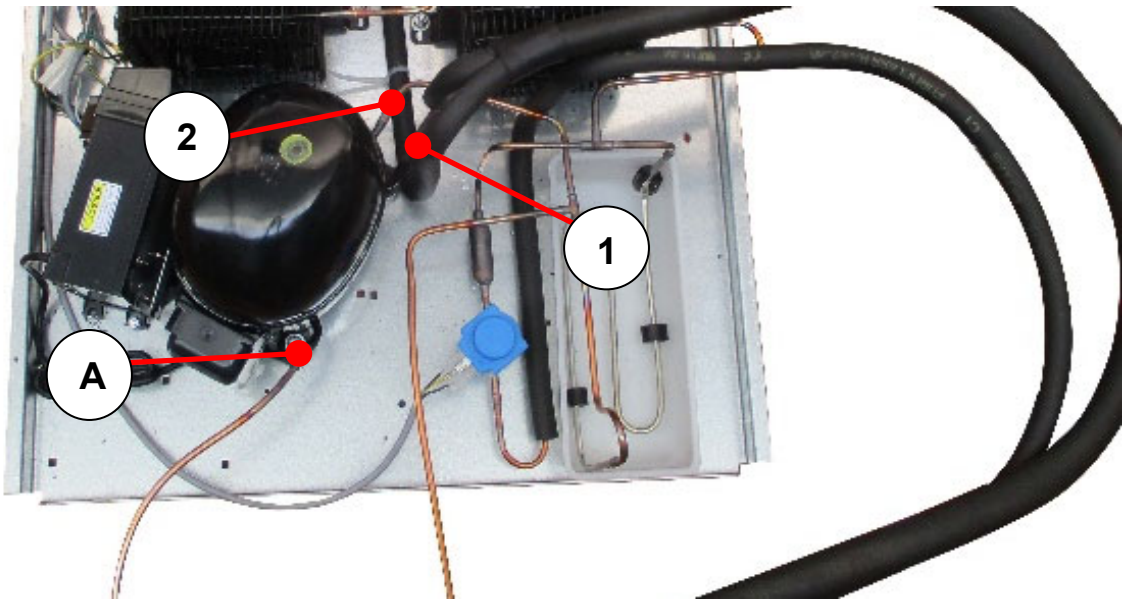
VALZER KW 3D
Epta code: 45911034
Model: SECOP NLV12.6CN

VALZER KW 4D
Epta code: 21848070 (2 Pc)
Model: EMBRACO VNEU217U

Epta code for filter: 78729000
Model: Filter UL gr 12 – Holes 5-3,2
Note: when the compressor is replaced the filter drier must be replaced too

5.5 UNSOLDER COPPER PIPE TUBE

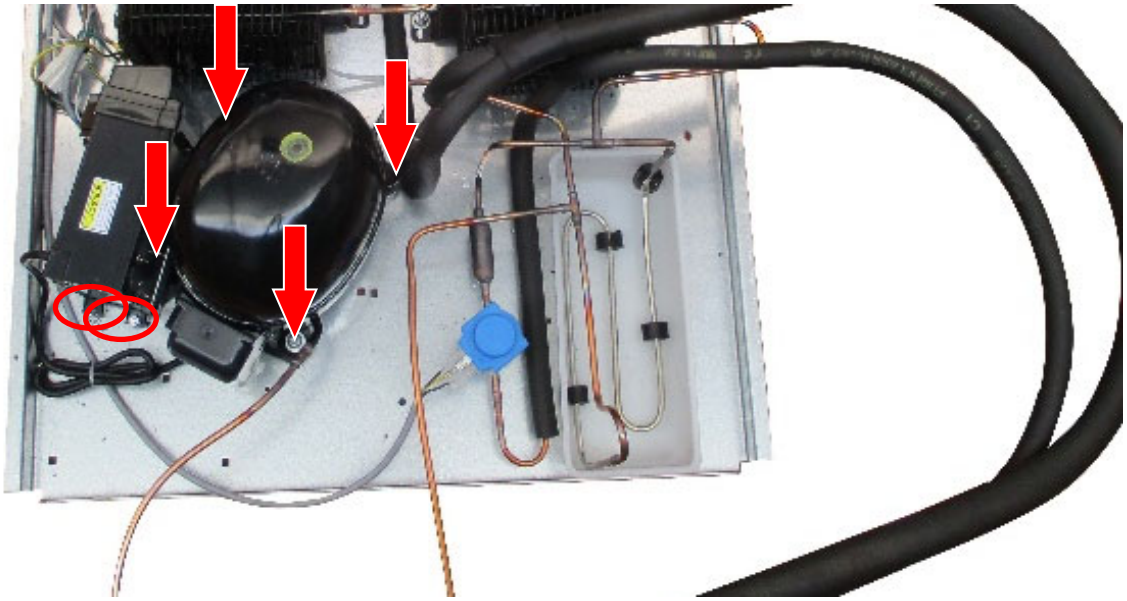
When no more refrigerant gas is inside the thermodynamic circuit, unsolder from compressor the charge pipe (**A**), the suction pipe (**1**) and the discharge pipe (**2**).



5.6 COMPRESSOR REMOVING

Unscrew the 4 compressor screws by using a wrench n°10.

Use a screwdriver to remove the inverter.



5.7 NEW COMPRESSOR INSERTION

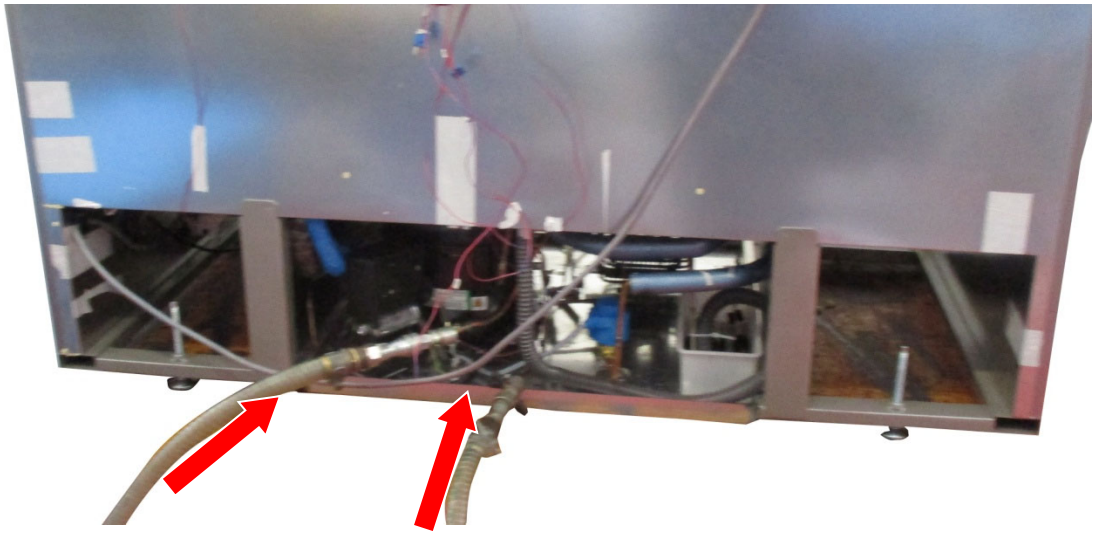
Fix the new compressor to the motor plate with 4 screws (wrench n°10) and then fix the inverter (screwdriver).

After securing the compressor to the plate, braze the discharge and suction pipes, then cut the capillary terminal by a 45° diagonal cut, insert it into the filter outlet (max 3cm) and braze it. Braze the pipe exiting the condenser to the filter inlet.

When the circuit is closed, charge the circuit with helium/nitrogen up to a pressure of 8 bar; check for possible leakages on brazing points.

Connect the vacuum pump to the compressor service tube and to the high pressure pipe and hold the vacuum for a period of 30-40minutes (check vacuum pump characteristics and manual for the correct procedure). The vacuum degree to be achieved is below 15 Pa (0,15 mbar).

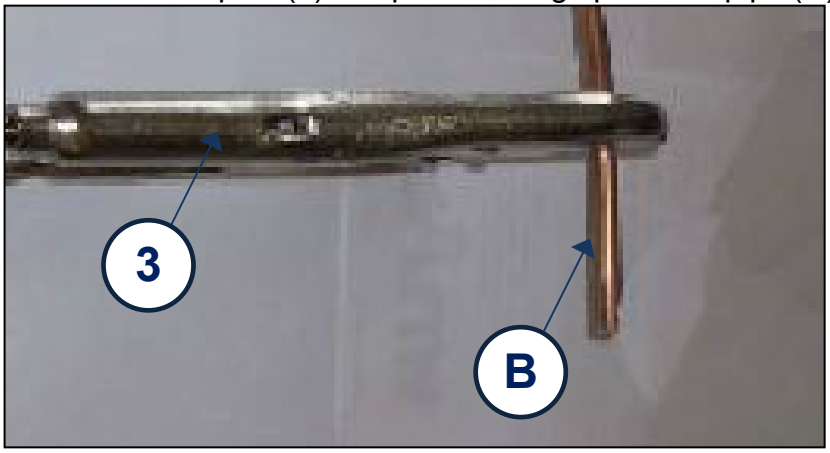
WARNING! Wrong vacuum execution may cause problems on the refrigerator performances.



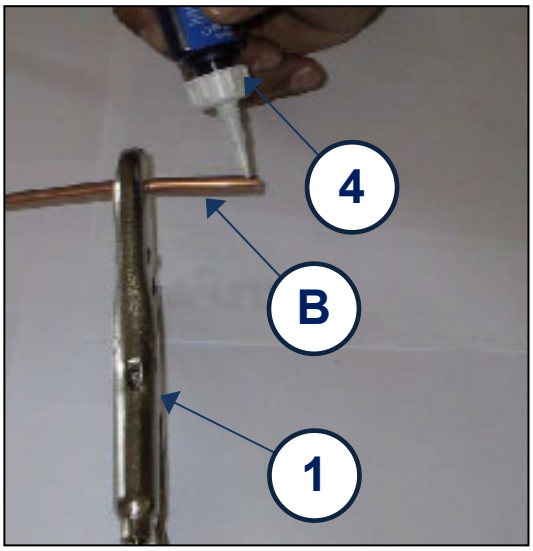
5.8 HIGH PRESSURE PIPE CLOSING

After 30-40 minutes of vacuum, disconnect the vacuum pump only on the high pressure pipe (**B**).

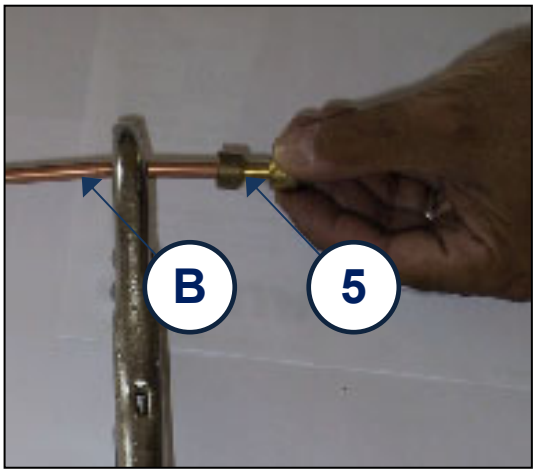
- Take the plier (**3**) and pinch the high pressure pipe (**B**), then remove refrigerant junction.



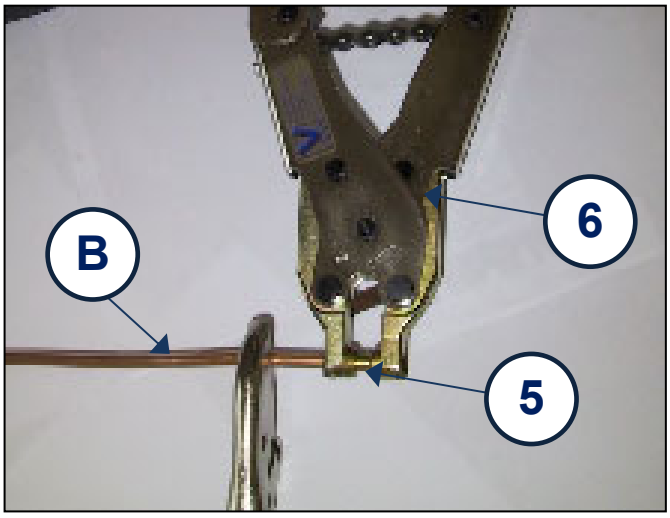
- Put a drop of Lokprep sealant (**4**) on the high pressure pipe terminal (**B**).



- Insert a Lokring cap (**5**) on the high pressure pipe (**B**). Rotate the cap (**5**) for correctly distribute the sealant (**4**).



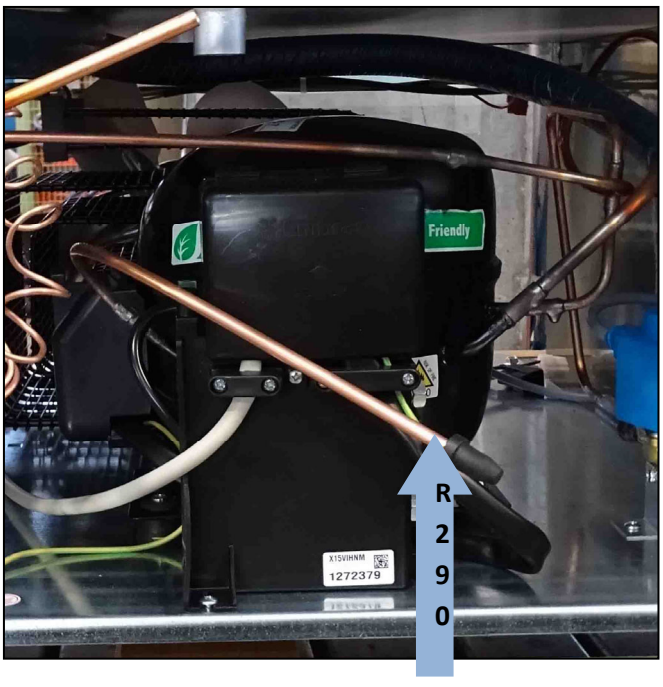
- By using the Lokring plier (**6**) fix the cap (**5**) on the copper pipe (**B**).



5.9 REFRIGERANT GAS CHARGING AND THERMODYNAMIC CIRCUIT CLOSING.

Check the nominal refrigerant gas charge on the data label of the cabinet (in g / oz).
Using a scale (**7**) with an adequate precision (±1g / ±0.01oz), verify the quantity of refrigerant gas in the gas container (**8**).

Disconnect the vacuum pump from the compressor service tube (**A**); connect the gas container (**8**) to the circuit, and measure the amount of refrigerant gas introduced in the circuit.



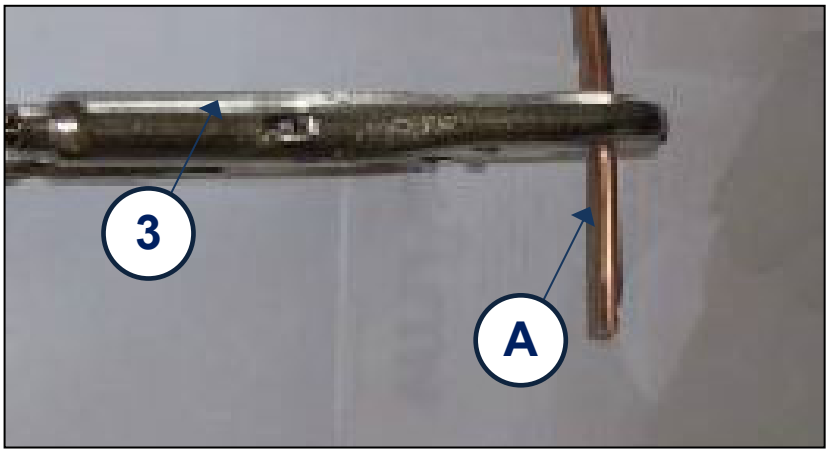
Picture example
of compressor

If necessary, switch on the refrigerator, in order to introduce further refrigerant gas; the final charge should be the nominal value with a tolerance of ±3% in mass.

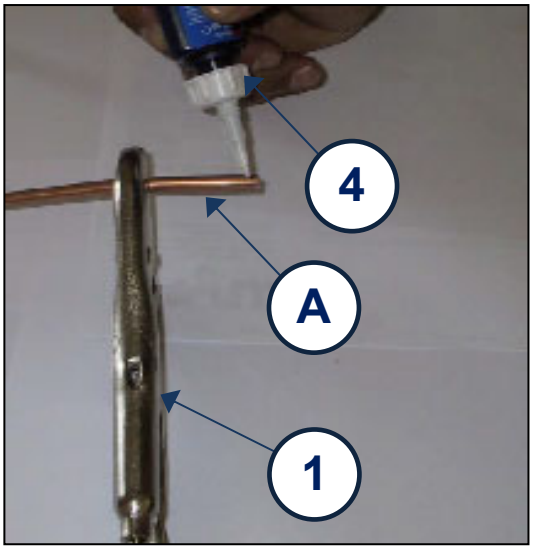
WARING! In order to avoid damages to the thermodynamic system components, do not switch on the refrigerator without any refrigerant gas inside the circuit.

Disconnect the refrigerant container from the circuit at the end of the charging process, then keep the refrigerator on for 5-6 minutes. Switch off and disconnect from the power supply.

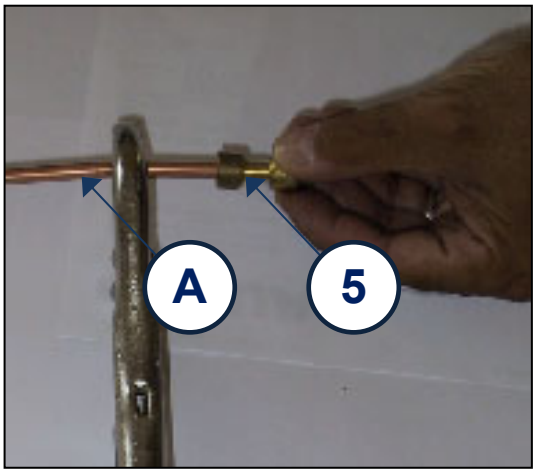
- Take the plier (**3**) and pinch the compressor service tube (**A**), then remove refrigerant junction.



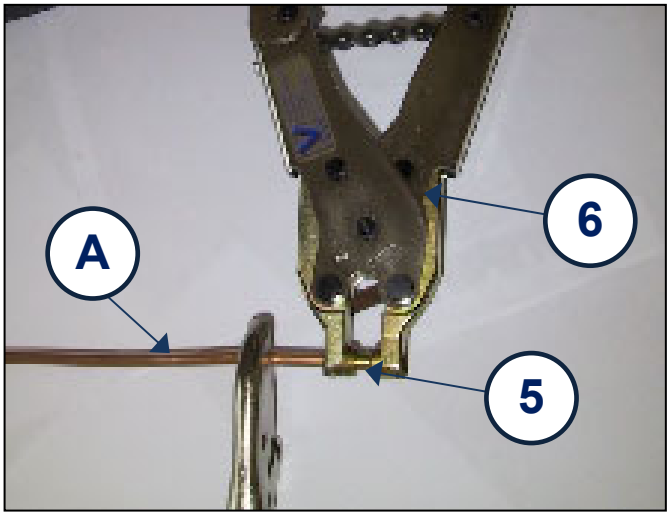
- Put a drop of Lokprep sealant (**4**) on the compressor service tube terminal (**A**).



- Insert Lokring cap (**5**) on the compressor service tube (**A**). Rotate the cap (**5**) for correctly distribute the sealant (**4**).



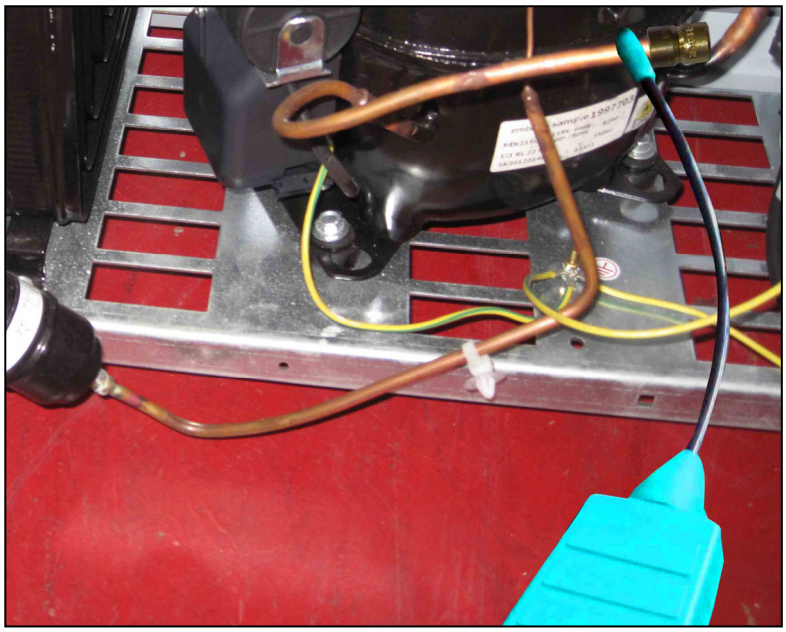
- By using the Lokring plier (**6**) fix cap (**5**) on the tube (**A**).



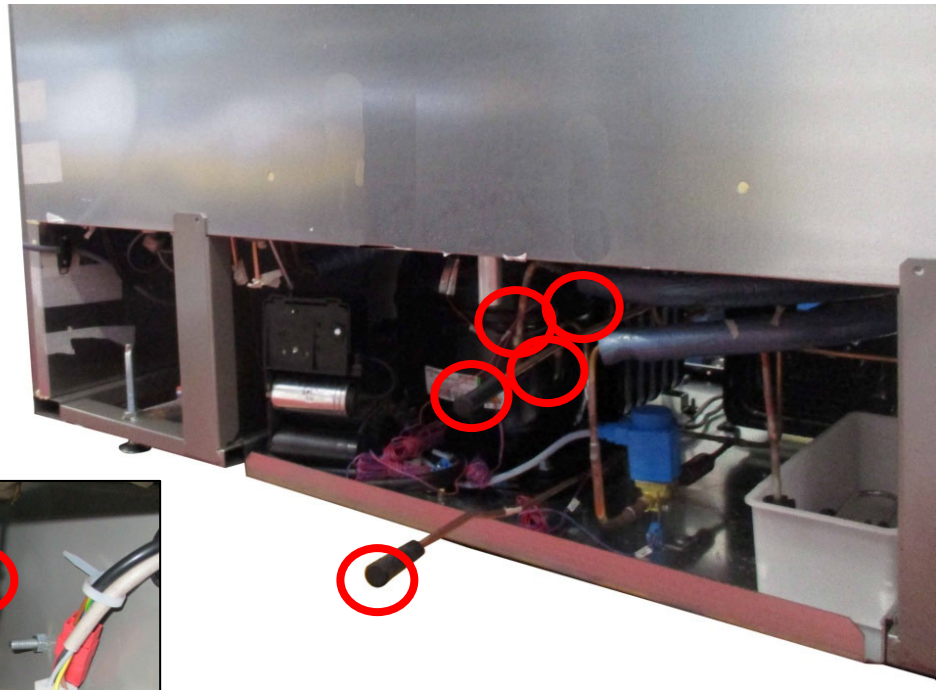
5.10 LEAKAGES CHECK

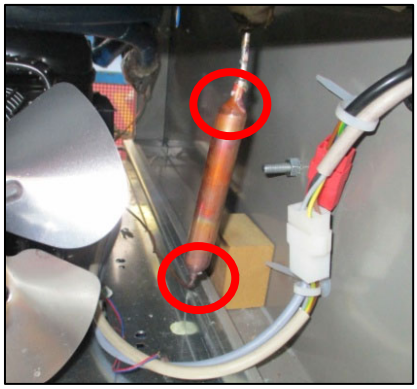
Use the electronic leak detector (**9**) in order to check for refrigerant gas leakages; adjust the sensitivity of the detector (when available) and test each brazing point and the two Lokring caps.

- Compressor service tube (Lokring cap).
- High pressure tube (Lokring cap).
- Suction pipe welding.
- Charge pipe welding.
- Discharge pipe welding.

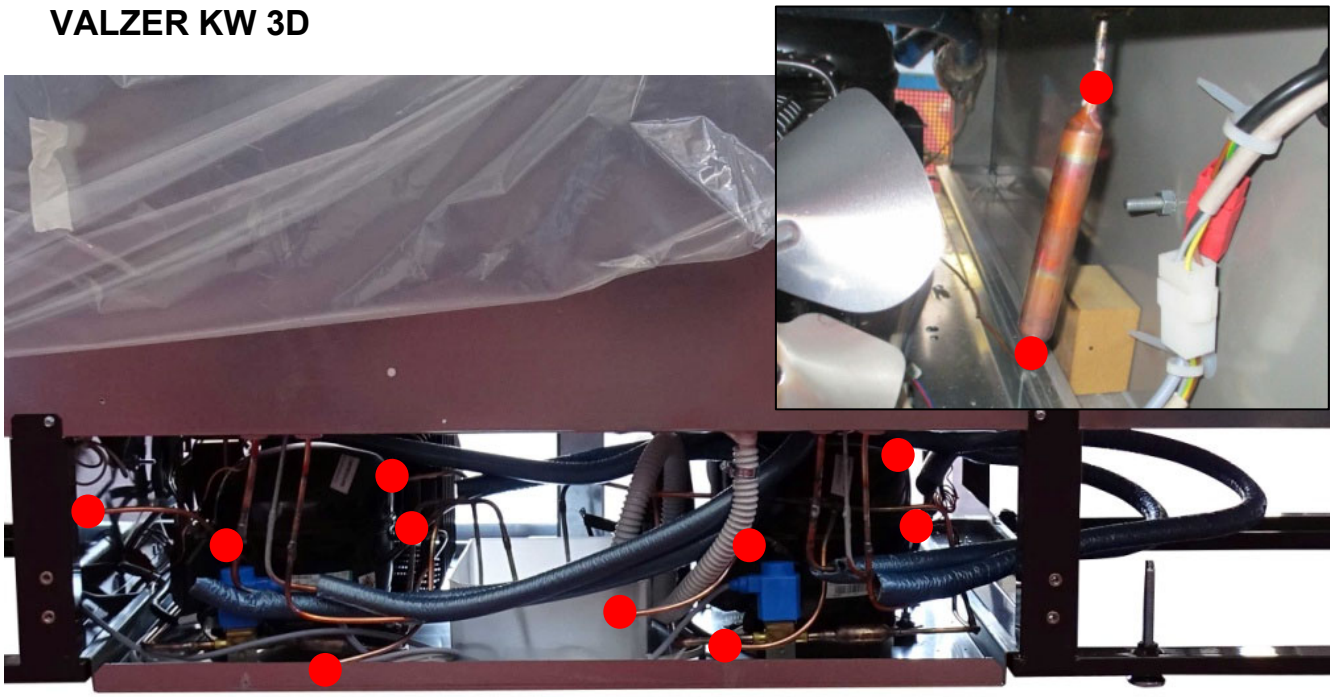


VALZER KW 2D

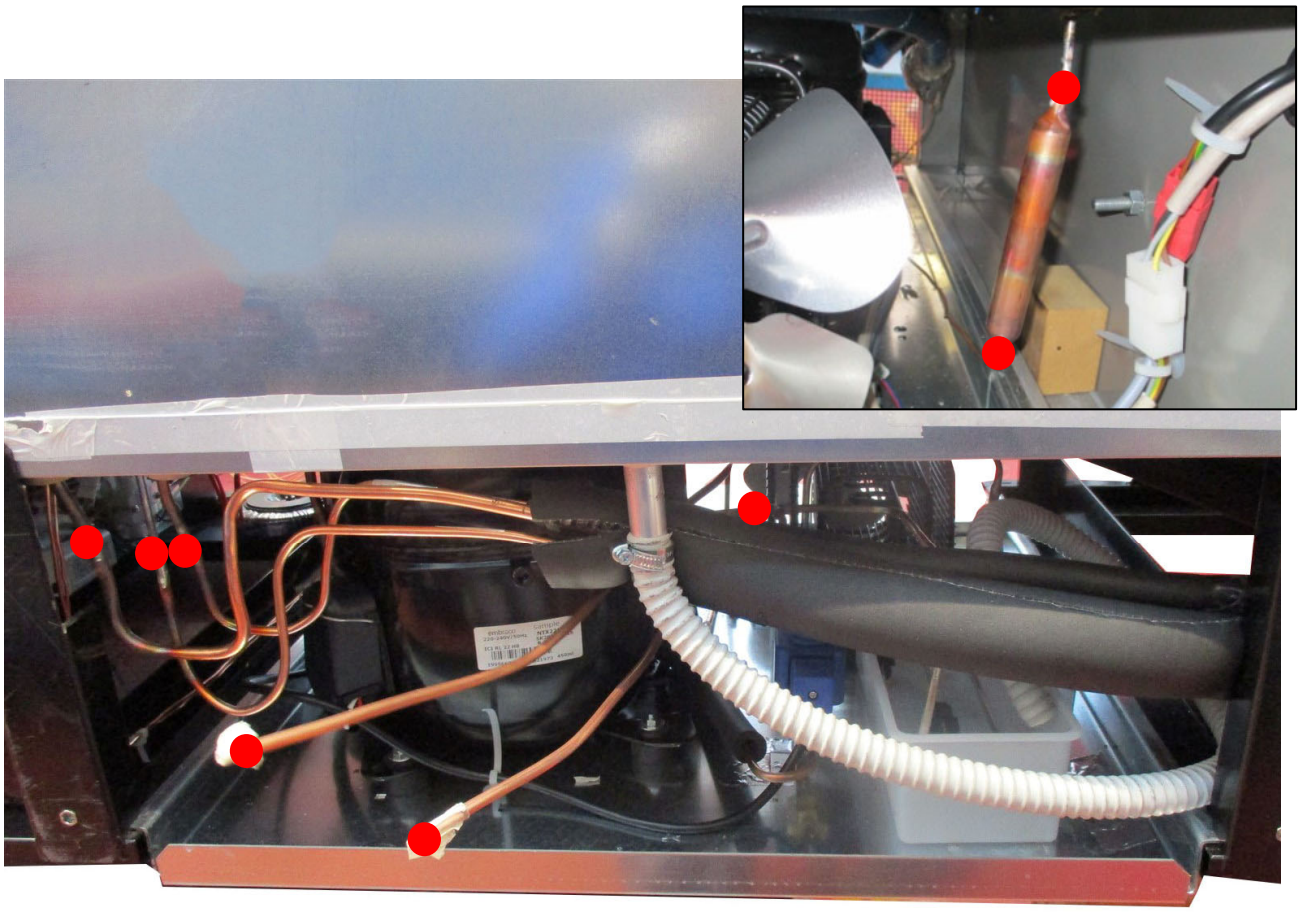




VALZER KW 3D



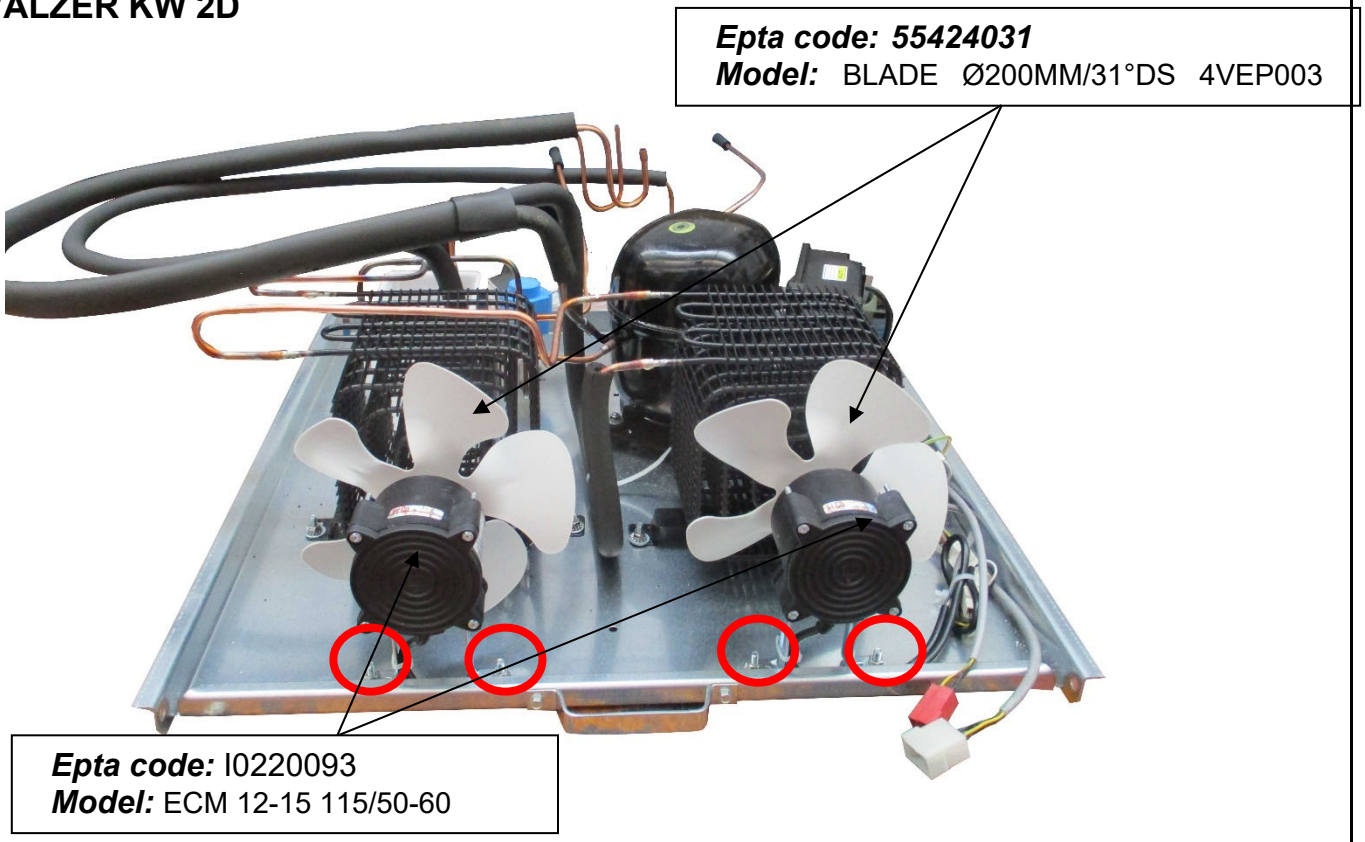
VALZER KW 4D



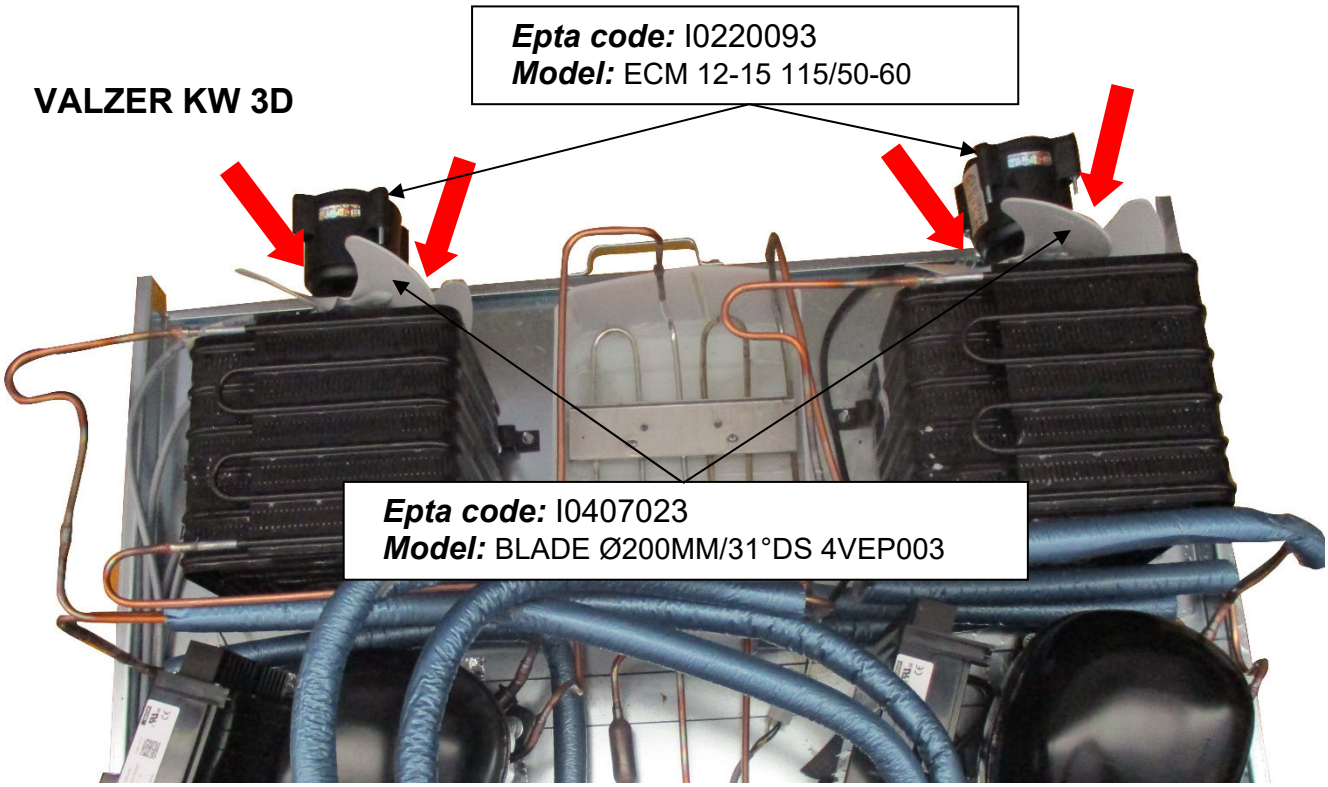
5.11 REPLACEMENT OF CONDENSER MOTOR FAN

1 – Disconnect the motor fan terminal connector and release the cable from the plastic tie.
2 – Unscrew the hexagonal-head screws and remove the motor fan from the motor plate.
3 – Unscrew the hexagonal-head screw fixing the fan blade and remove the screws fastening the motor to its bracket.

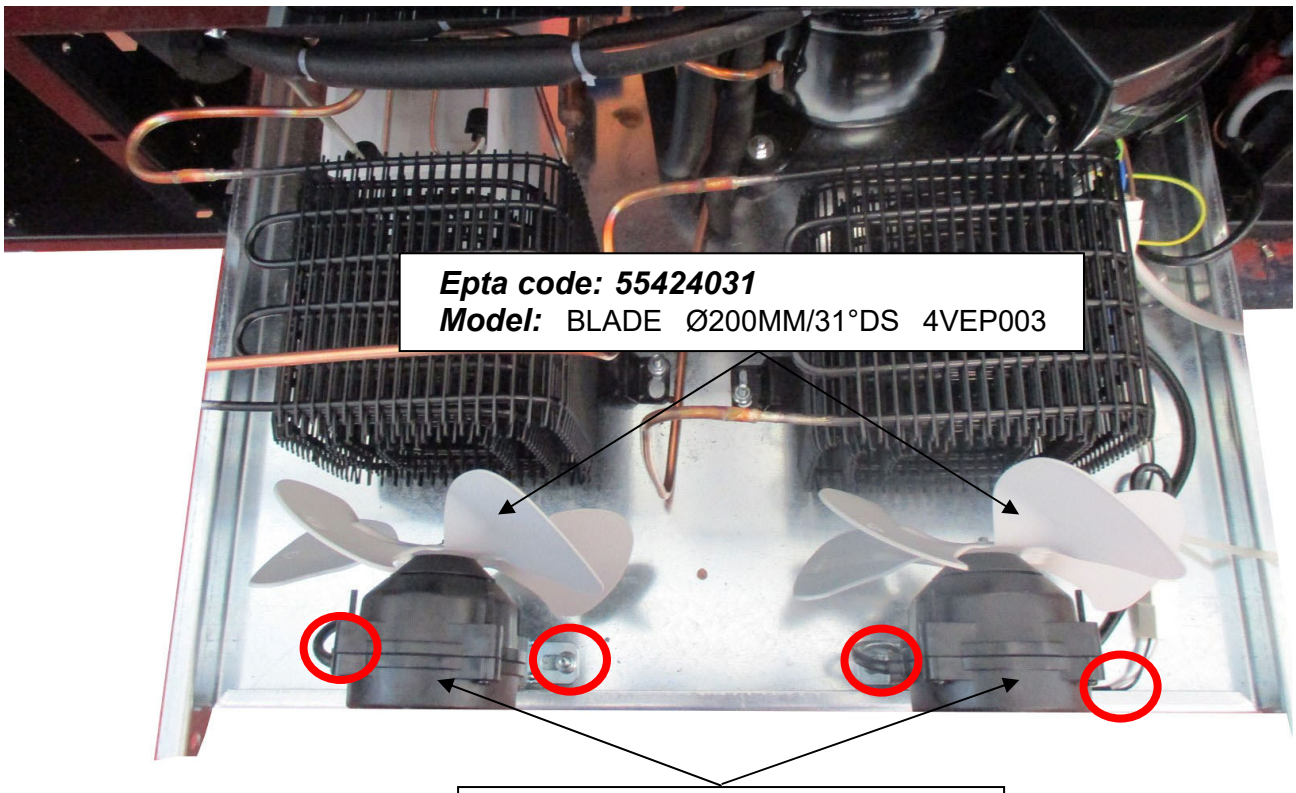
VALZER KW 2D



VALZER KW 3D



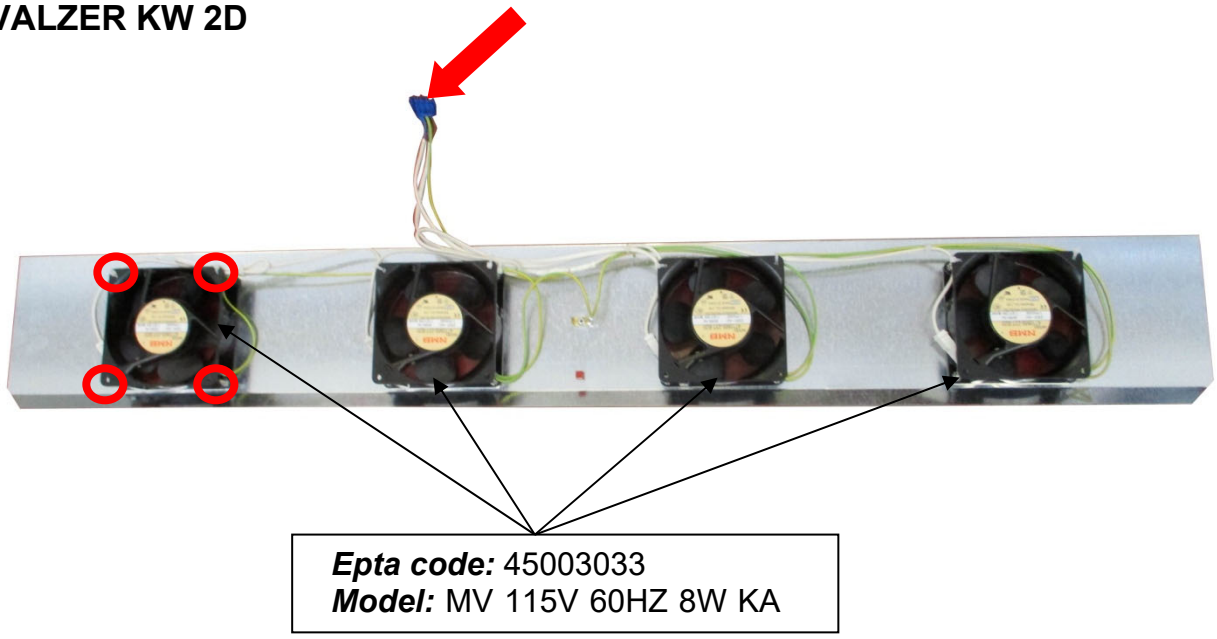
VALZER KW 4D



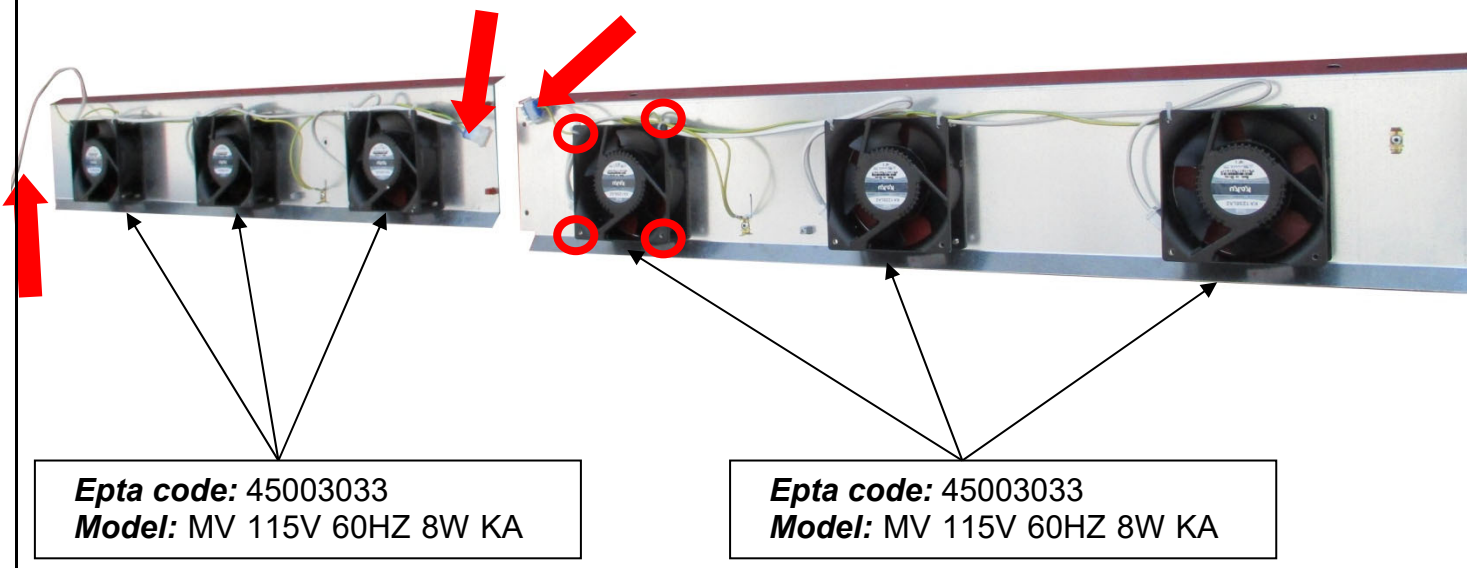
5.12 REPLACEMENT OF EVAPORATOR MOTOR FAN

1 – Unscrew and remove evaporator plastic cover.
2 – Disconnect the motor fan connectors.
3 – Unscrew and remove the motor fan.

VALZER KW 2D



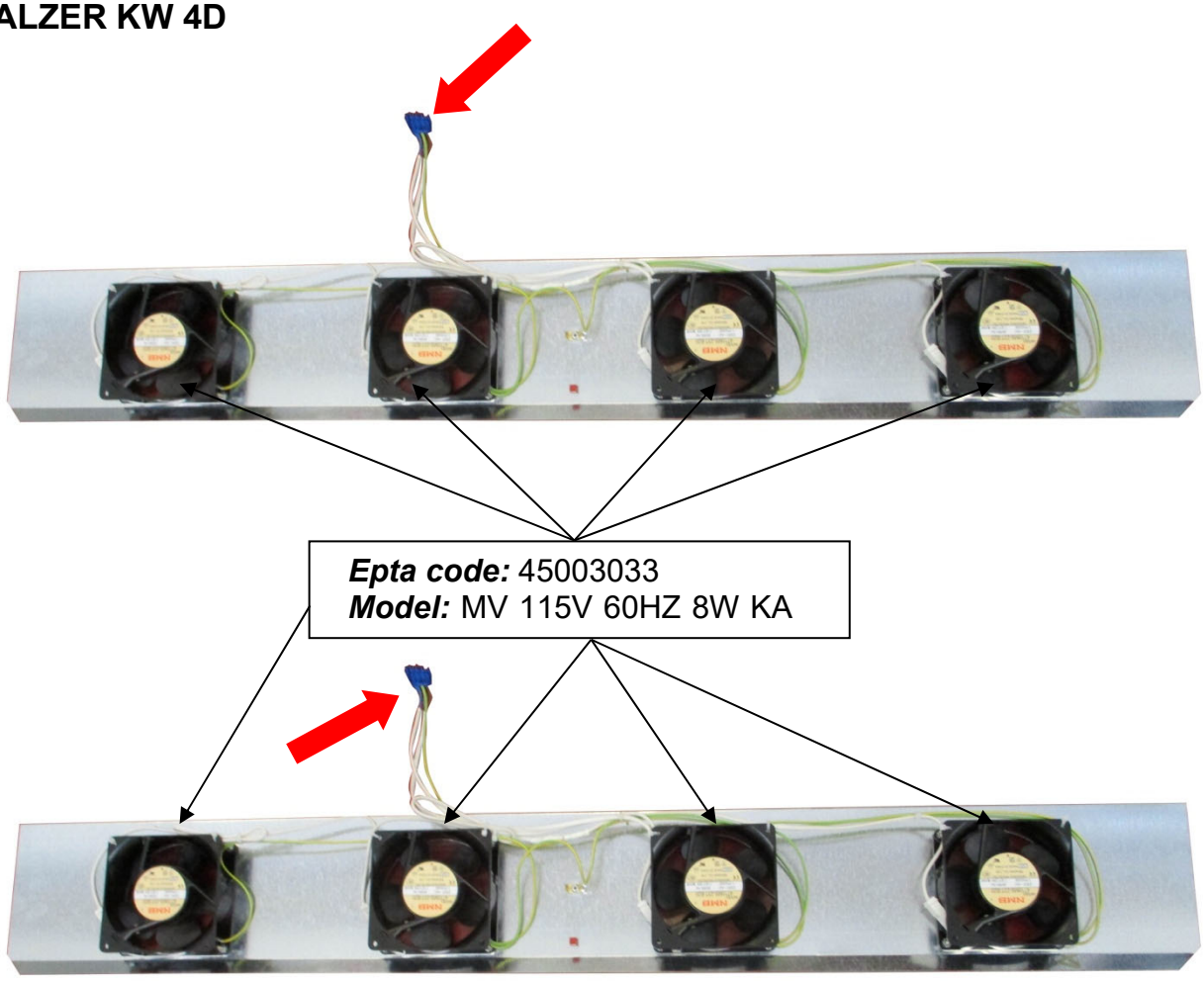
VALZER KW 3D



Epta code: 45003033
Model: MV 115V 60HZ 8W KA

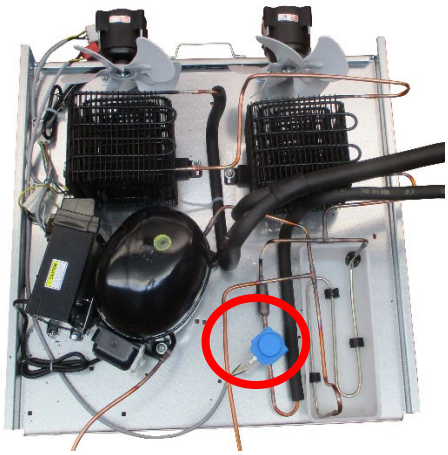
Epta code: 45003033
Model: MV 115V 60HZ 8W KA

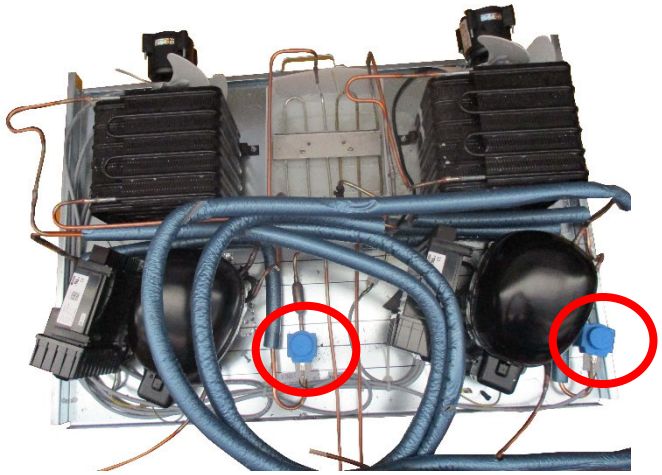
VALZER KW 4D



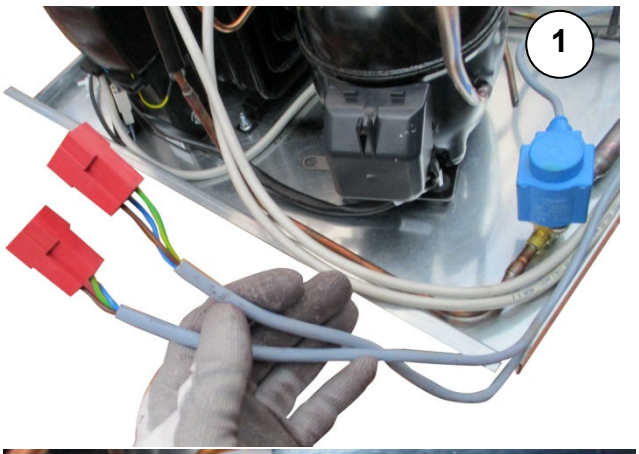
Epta code: 45003033
Model: MV 115V 60HZ 8W KA

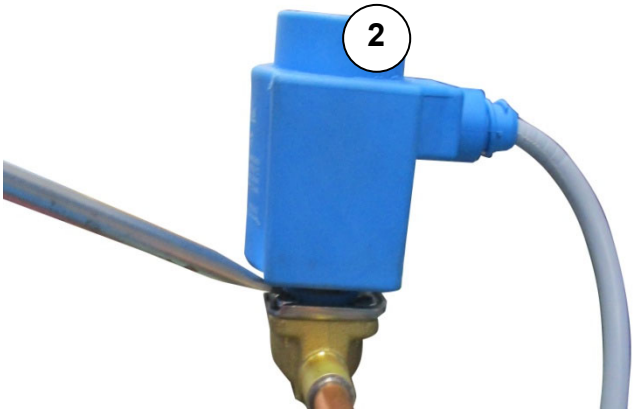
5.13 REPLACEMENT OF SOLENOID VALVE

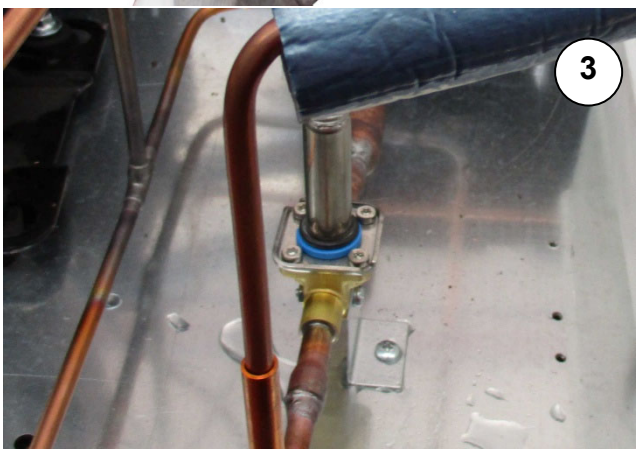


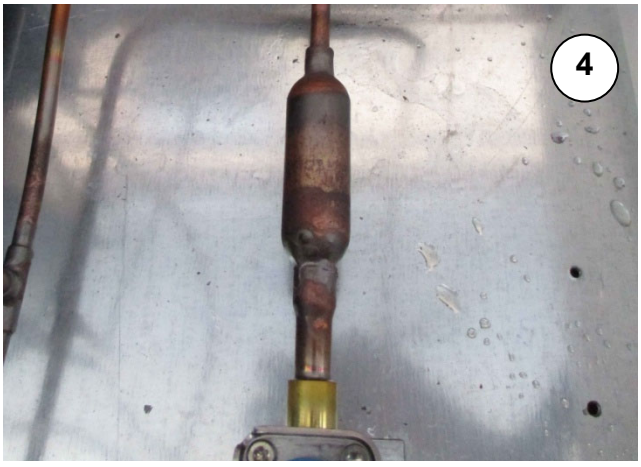


1) Disconnect the valve connector.
2) By using the screwdriver, remove the valve coil.
3) Open the circuit according to previous paragraph, then remove the solenoid valve.
4) Unsolder and replace the mechanic filter.









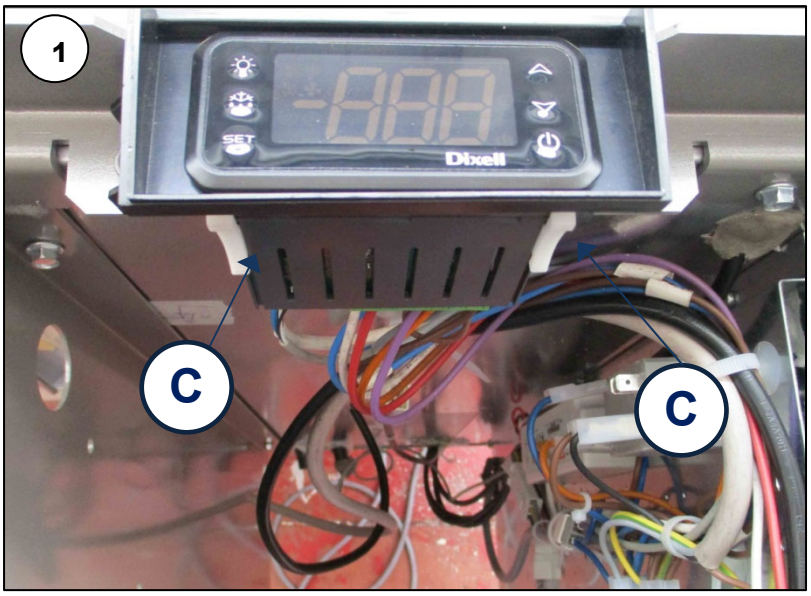
Epta code Solenoid Valve: I0189033 ***Model:*** SOLENOID VALVE EVR3 115/60 U.L.

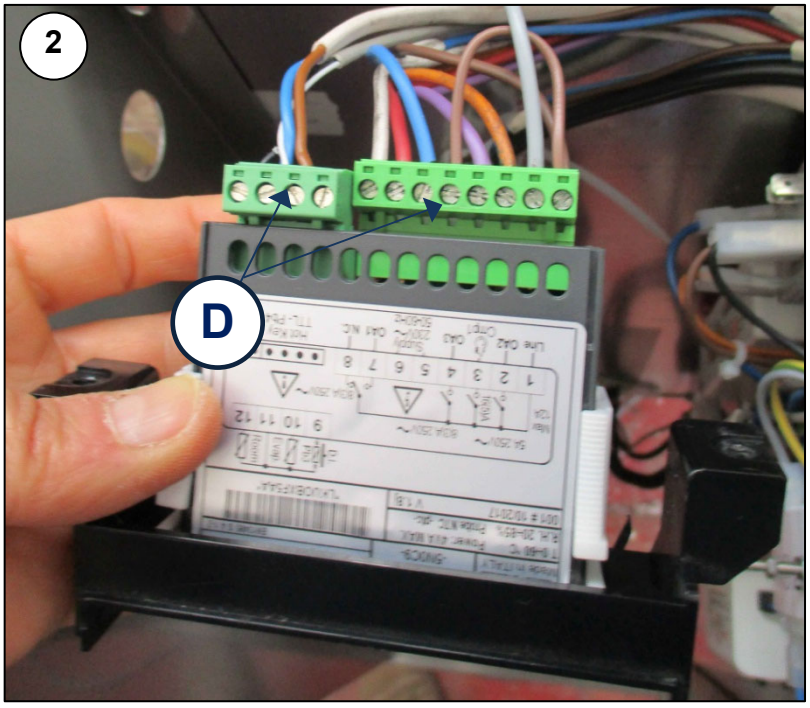
Epta code Coil: I3304601 ***Model:*** COIL EVR3 115/60 U.L.

Epta code Mechanic filter: I0145001 ***Model:*** MECHANIC FILTER D.MM17X74

5.14 REPLACEMENT OF ELECTRONIC CONTROLLER

1 – Remove the frontal grid to access to electrical components.
1 – Remove the controller lateral clips (**C**).
2 – Disconnect the rear connector (**D**).
3 – Remove the electronic controller.





Epta code Electronic controller: 52997031
Model: ELECTRONIC CONTROL DIXELL XR72CH 4N0F9 120VAC

5.15 REPLACEMENT OF LED BARS

LED POWER SUPPLY VALZER KW 2D

- ***Epta code***: I3305249
- ***Model*** : LPV 35-24

- ***Epta code*** : I3305723
- ***Model*** : APV 16-24

LED POWER SUPPLY VALZER KW 3D

- ***Epta code***: I3305249
- ***Model*** : LPV 35-24

- ***Epta code*** : I3305248
- ***Model*** : LPV 20-24

LED POWER SUPPLY VALZER KW 4D

- ***Epta code***: I3305249
- ***Model*** : LPV 35-24

- ***Epta code***: I3305249
- ***Model*** : LPV 35-24

LED BARS VALZER KW 2D

- ***Epta code for LED lamp***: 50915002– LED LAMP 8W 1573 24V 4000K WHITE (2 Pc)
- ***Epta code for LED lamp***: 50916002 – LED LAMP 8W 1573 24V 4000K WHITE (2 Pc)

LED BARS VALZER KW 3D

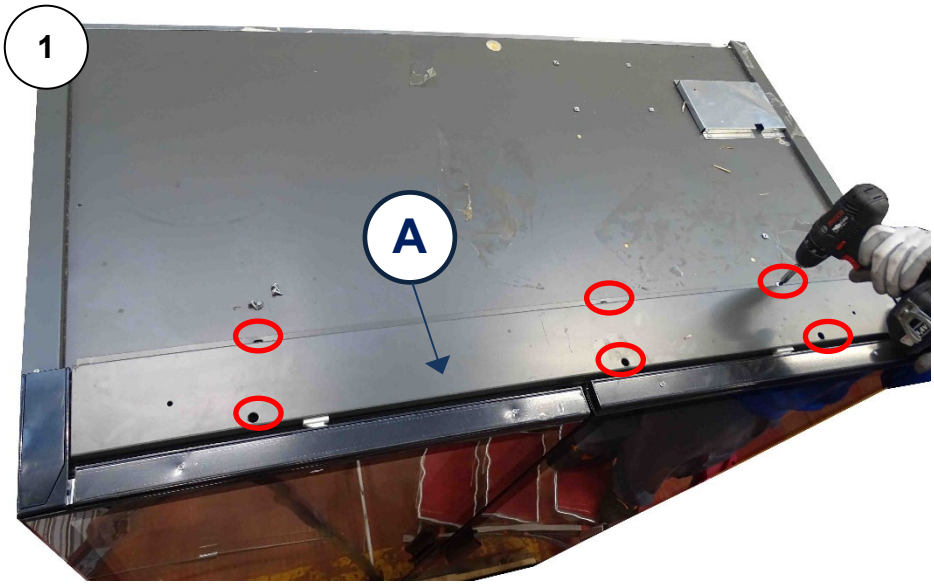
- ***Epta code for LED lamp***: 50915002– LED LAMP 8W 1573 24V 4000K WHITE (3 Pc)
- ***Epta code for LED lamp***: 50916002 – LED LAMP 8W 1573 24V 4000K WHITE (3 Pc)

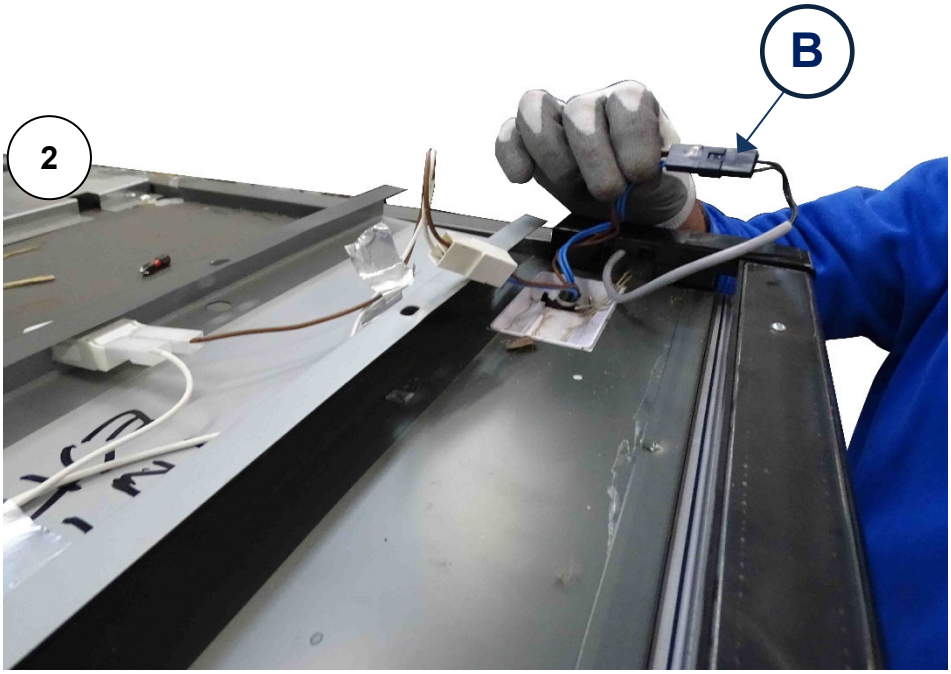
LED BARS VALZER KW 4D

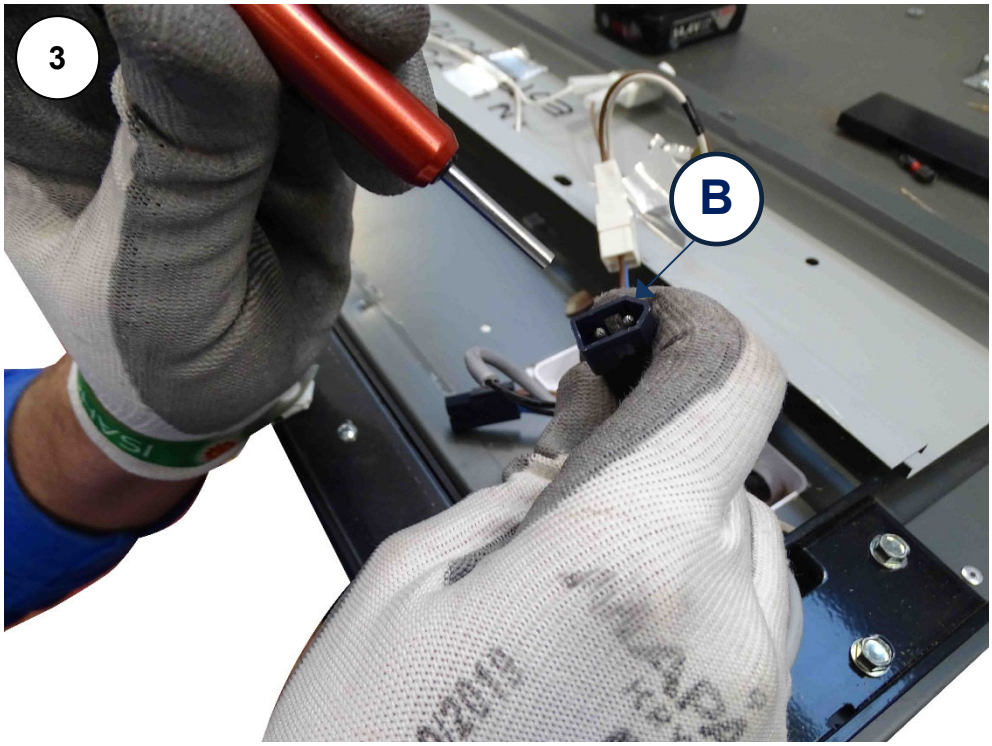
- ***Epta code for LED lamp***: 50915002– LED LAMP 8W 1573 24V 4000K WHITE (4 Pc)
- ***Epta code for LED lamp***: 50916002 – LED LAMP 8W 1573 24V 4000K WHITE (4 Pc)

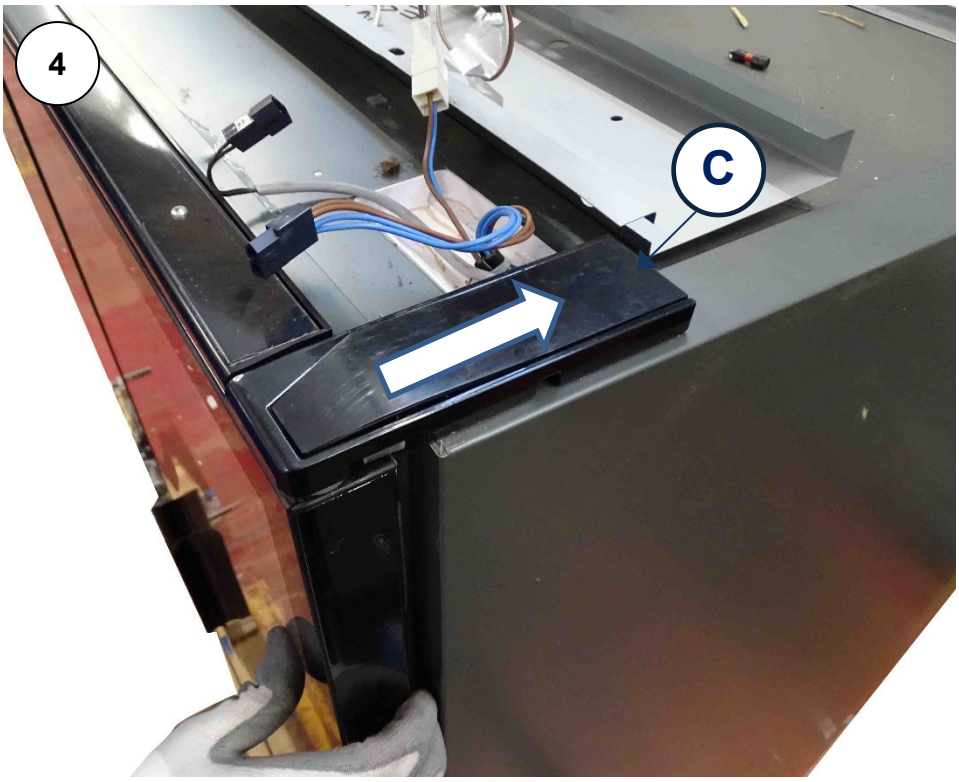
5.16 DOOR REPLACEMENT

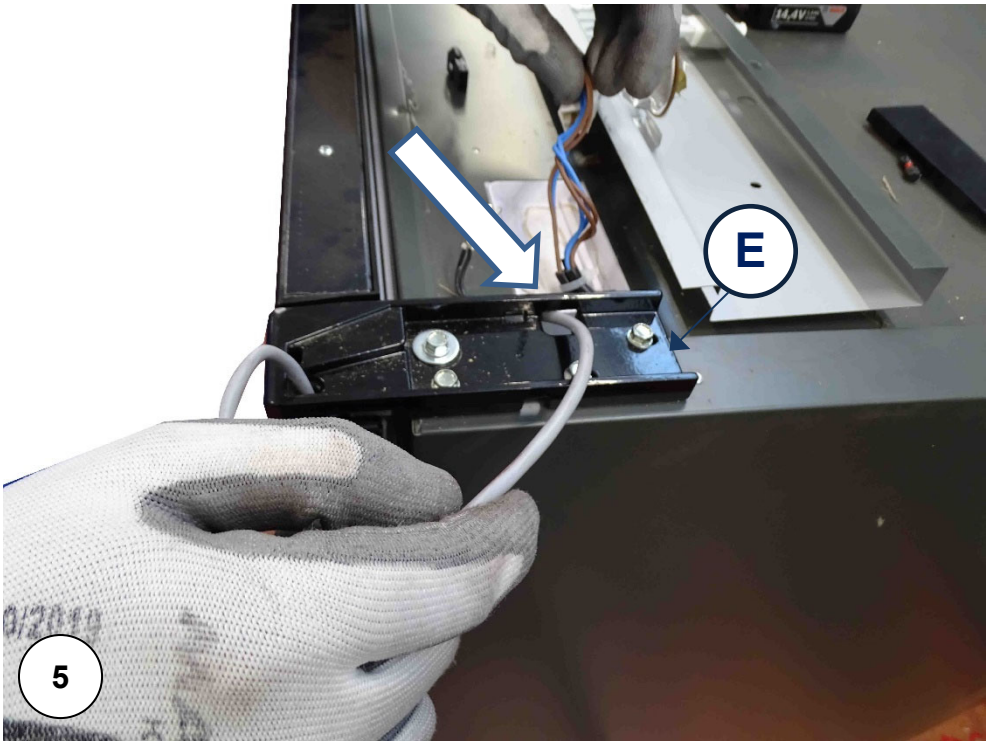
1 – Unscrew and remove the Upper Cover (**A**).
2 – Disconnect the connector (**B**).
3 – Remove the connector (**B**).
4 – Remove the plastic cover (**C**).
5 – Pass the resistance wire from the upper door support (**E**).
6 – Unscrew the upper door support (**E**).
7 – Remove the door and replace it.
8 – Repeat the operations starting from point 7 up to point 1 for restore the cabinet.

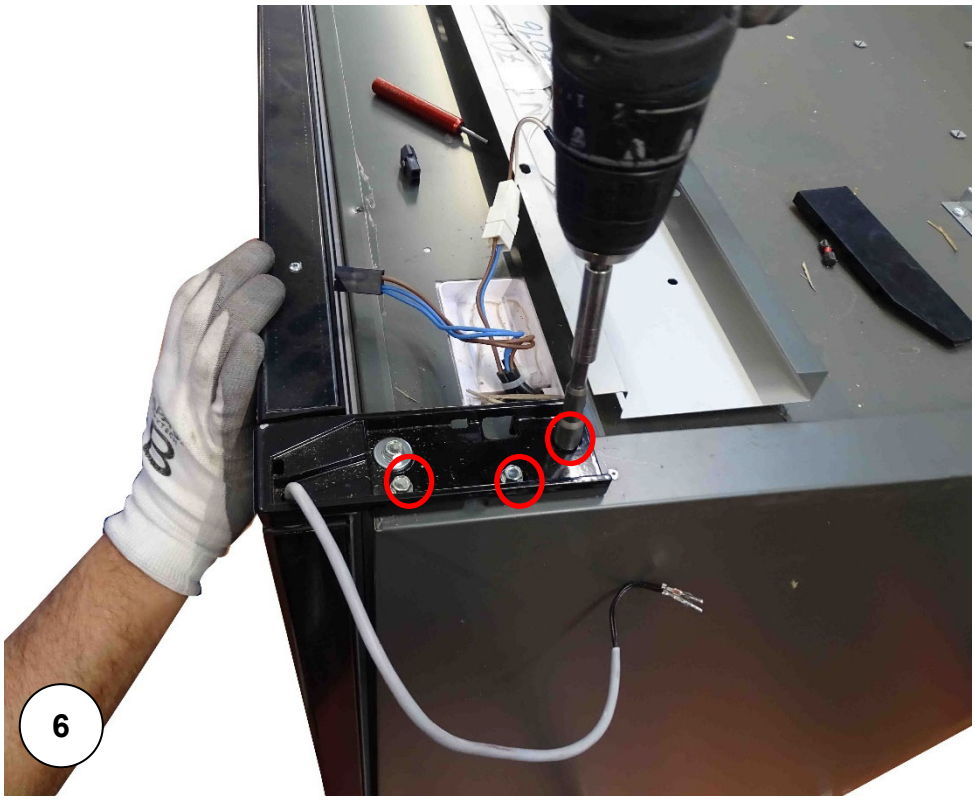


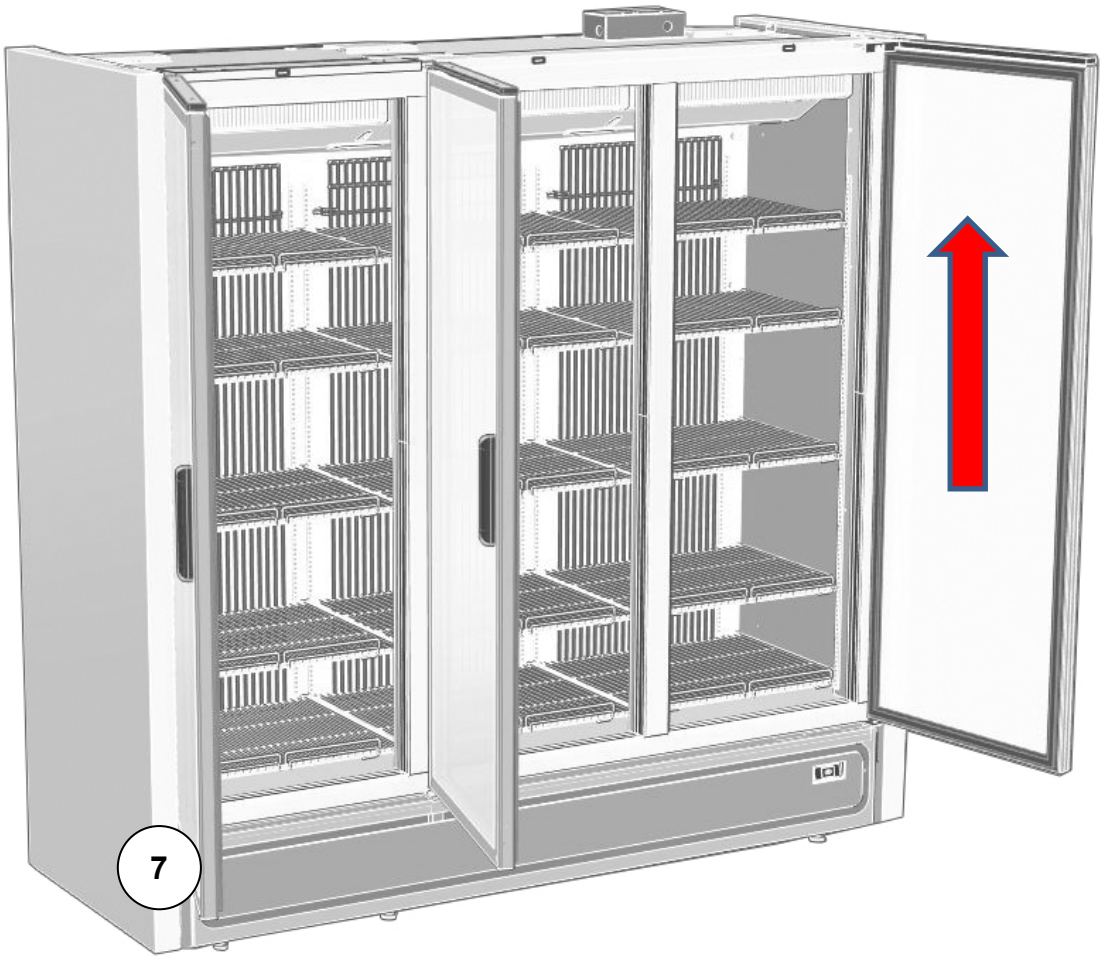












6. INVERTER INFORMATIONS

6.1 LED INDICATION

LED STATUS	PERIOD	COLOR	DESCRIPTION
1 Flash	30 seconds	Green	Normal Operation
2 Flashes	5 seconds	Green	Communication problem
3 Flashes	5 seconds	Red	Inverter Problem
4 Flashes	5 seconds	Orange	Compressor Problem
No Flash	-	-	No imput power / Damaged inverter

6.2 INVERTER TROUBLESHOOTING

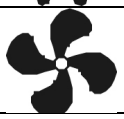
COMPRESSOR DOESN'T START	
PROBLEM	***ACTION***
Compressor disconnected from the inverter.	Verify compressor cable connection.
No AC power supply; or wrong voltage/terminals connected.	Verify AC input cable connection and measure AC input voltage.
No control signal input or bad connection.	Verify control input cable connection and measure the signal from the thermostat.
Blown fuse (due to previous major failure).	Return the unit to manufacturer, replacing it by new one.
Open compressor motor winding.	Measure winding for open circuit between all pair of pins on the hermetic terminal. If any winding is open, return compressor to manufacturer.
Compressor with locked rotor (due to mechanical damage).	Replace compressor by new one and test for confirmation. Return damage unit to manufacturer.
Dropped, damaged, burnt inverter.	Replace by new one and test for confirmation. Return damaged unit to manufacturer.
Inverter on waiting time after failed start.	Wait the necessary time or reset the inverter disconnecting it from the AC power supply. The reset time is about 50s.
Demagnetized rotor (only if compressor was previously connected directly to the AC power supply).	Replace compressor by a new one and test for confirmation. Return damaged unit to manufacturer.
Unequaled pressures between discharge and suction pressures in the refrigerating system.	Allow the inverter to equalize pressure between suction and discharge sides.
Low input voltage supplied to the inverter.	Measure AC voltage to confirm.

7. MAIN CABINET FUNCTIONS

7.1 DISPLAY UNIT AND MAIN PARAMETERS

1. Light switch
2. Manual defrost
3. *Show set point (longer pressure to modify value)*
4. *Decrease set point*
5. *Increase set point*

7.2 USE OF LEDS

LED	MODE	MEANING
	ON	Compressor enabled
	FLASHING	Anti-short cycle delay enabled
	ON	Defrost enabled
	FLASHING	Drip time in progress
	ON	Fans enabled
	FLASHING	Fans delay after defrost in pregress
	ON	An alarm is occurring
	ON	Continuous cycle is running
ECO	ON	Energy saving enebled
	ON	Light Auxiliary replay on
AUX	ON	Auxiliary relay on
°C/°F	ON	Measurement unit
	FLASHING	Programming phase

7.3 TEMPERATURE SETTING

Each refrigerating appliance is provided with an electronic control factory programmed to maintain the temperature inside the tank in its operating range.

Parameters should not be modified by end users; only skilled personnel is authorized to enter in programming mode.

If the average internal temperature is too cold or too warm, set-point can be modified in an allowed range with the following steps:

- **Press the (*Set*) key for a few seconds** in order to see on display the temperature set point.
- **Press the (⮝) key or the (⮟) key** in order to increment or decrement the temperature set point.
- **Press the (*Set*) key in order to store the new temperature set point.**

7.4 VALZER KW 2D PARAMETERS

DIXELL Model : XR72CH - 230V - NTC/PTC - COD. IARP I3306764										
IA5-22 2D KW- COPY CARD COD. 73989000 Release 01_21										
Date : 08/02/2021										
Firmware: 1,8										
U.M TEMPERATURA: F°										
Group	**Parameter**	**Description**	**COPYCARD**	**Original**	**Visibility**	**Min**	**Max**	**Unity**	**Comment**
Probe	ot	Probe P1 calibration	0	0	Pr1	-12	12	°C	
Probe	P2P	Probe P2 presence	Yes	Yes	Pr1				
Probe	oE	Probe P2 calibration	0	0	Pr2	-12	12	°C	
Probe	P3P	Probe P3 presence	no	no	Pr2				
Probe	o3	Probe P3 calibration	0	0	Pr2	-12	12	°C	
Probe	P4P	Probe P4 presence	no	no	Pr2				
Probe	o4	Probe P4 calibration	0	0	Pr2	-12	12	°C	
Regulation	SEt	Set point	-6	-20		-55	25	°C	
Regulation	Hy	Compressor regulation hysteresis	4	1	Pr1	1	25	°C	
Regulation	LS	Set Point min	-22	-55	Pr2	-55	-20	°C	
Regulation	US	Set Point max	14	25	Pr2	-20	150	°C	
Regulation	odS	Output delay at start up	1	0	Pr2	0	255	min	
Regulation	AC	Anti-short cycle delay	3	3	Pr1	0	50	min	
Regulation	Ac1	Starting delay 2nd compressor	1	0	Pr1	0	255	sec	
Regulation	rtr	P1-P2 percentage for regulation	100	100	Pr2	0	100		
Regulation	CCt	Continuous cycle duration	00:00	00:00	Pr2			hour	
Regulation	CCS	Set point for continuous cycle	23	-5	Pr2	-55	150	°C	
Regulation	Con	Compressor ON time with faulty probe	8	8	Pr2	0	255	min	
Regulation	CoF	Compressor OFF time with faulty probe	6	6	Pr2	0	255	min	
Regulation	CF	Temperature measurement unit	°F	°C	Pr2				
Regulation	rES	Resolution (per °C) : decimal , integer	dE	in	Pr1				
Regulation	Lod	Local dispaly : default display	P1	P1	Pr2				
Regulation	dLy	Display temperature delay	00:03	00:00	Pr1			min	
Regulation	dtr	P1-P2 percentage for display	99	99	Pr2	1	99		
Defrost	tdF	Defrost type : resistance , invertion	in	in	Pr1				
Defrost	dFP	Probe 1 selection for defrost	P2	P2	Pr2				
Defrost	dSP	Probe 2 selection for defrost	np	nP	Pr2				
Defrost	dtE	Defrost termination temperature	59	15	Pr1	-55	50.0	°C	
Defrost	dtS	2nd Defrost termination temperature	59	8	Pr2	-55	50.0	°C	
Defrost	idF	Interval between defrost cycles	6	6	Pr1	0	120	hour	
Defrost	MdF	Maximum length for defrost	30	20	Pr1	0	255	min	
Defrost	MdS	Maximum length for 2nd defrost	0	0	Pr2	0	255	min	
Defrost	dSd	Start defrost delay	0	0	Pr2	0	255	min	
Defrost	dFd	Displaying during defrost	dEF	dEF	Pr2				
Defrost	dAd	MAX display delay after defrost	15	30	Pr2	0	255	min	
Defrost	Fdt	Draining time	3	3	Pr2	0	255	min	
Defrost	dPo	First defrost after start-up	no	no	Pr2				
Defrost	dAF	Defrost delay after fast freezing	00:00	00:00	Pr2			hour	
Fans	FnC	Fan operating mode	O-n	O-n	Pr1				
Fans	Fnd	Fan delay after defrost	7	7	Pr1	0	255	min	
Fans	FCt	Differential of temperature for forced activation of fans	0	0	Pr2	0	50	°C	
Fans	FSt	Fan stop temperature	122	50	Pr1	-55	50.0	°C	
Fans	Fon	Fan on time with compressor off	0	0	Pr2	0	15	min	
Fans	FoF	Fan off time with compressor off	0	0	Pr2	0	15	min	
Fans	FAP	Probe selection for fan management	P2	P2	Pr2				
Ausiliary	ACH	Type of action ausialiary regulator	cL	cL	Pr2				
Ausiliary	SAA	Set point ausialiary regulator	0	0	Pr2	-55	150	°C	
Ausiliary	SHy	Differential for ausialiary regulator	4	2	Pr2	1	25	°C	
Ausiliary	ArP	Select probe for ausialiary regulator	nP	nP	Pr2				
Ausiliary	Sdd	Block regolator AUX during defrost	no	no	Pr2				
Alarm	ALC	Configuration alarms : relative / absolute	Ab	Ab	Pr2				
Alarm	ALU	Maximum alarm temperature 1	122	50	Pr1	-50	150	°C	
Alarm	ALL	Low temperature alarm	-58	-50	Pr1	-55	50	°C	
Alarm	AFH	Differential for temperat. alarm recovery 1	4	2	Pr2	1	25	°C	
Alarm	ALd	Temperature alarm delay 1	60	60	Pr2	0	255	min	
Alarm	dAo	Delay of temperature alarm at start up 1	02:00	03:00	Pr2			hour	
Alarm	AP2	Probe for temperat. alarm of condenser 2	nP	nP	Pr2				
Alarm	AL2	Alarm threshold of low temperature probe 2	-67	-55	Pr2	-55	150	°C	
Alarm	AU2	Alarm threshold of high temperature probe 2	230	110	Pr2	-55	150	°C	
Alarm	AH2	Differential for temperature alarm probe 2	10	5	Pr2	1	25	°C	
Alarm	Ad2	Delay alarm temperature probe 2	120	120	Pr2	0	255	min	
Alarm	dA2	exclusion alarm temperature at power-on	02:00	02:00	Pr2			hour	
Alarm	bLL	Compressor block for per low temperature alarm 2	no	no	Pr2				
Alarm	AC2	Compressor block for per high temperature alarm 2	no	no	Pr2				
Configuration	oA1	Configuration function exit AUX1	dEF	dEF	Pr2				
Configuration	oA2	Configuration function exit AUX2	Fan	FAn	Pr2				
Configuration	oA3	Configuration function exit AUX3	LiG	LiG	Pr2				
Digital input	i1P	Polarity digital input	cL	cL	Pr1				
Digital input	i1F	Function digital in	dor	dor	Pr1				
Digital input	did	Alarm delay from digital configurable in	255	255	Pr1	0	255	min	
Digital input	nPS	Numbers of action of preassure switch	15	15	Pr2	0	15		
Digital input	Odc	Open door control : fans and compressor	no	no	Pr2				
Alarm	rrd	Restart regulation with open door alarm	Yes	Yes	Pr2				
Energy Saving	HES	Temperature increasing at Energy Saving	0	0	Pr2	-30	30	°C	
Other	Adr	Serial address	1	1	Pr2	1	247		
Probe	pbC	Select probe type	ntC	ntC	Pr1				
Configuration	onF	Configuration button OFF	no	no	Pr2				
Configuration	LPC	Configuration LIGHT function button	Lig	Lig	Pr2				
Other	dP1	Display probe P1	0	0	Pr2				
Other	dP2	Display probe P2	0	0	Pr2				
Other	dP3	Display probe P3	0	0	Pr2				
Other	dP4	Display probe P4	0	0	Pr2				
Other	rSE	Display regulation set (SET + ES + SETd)	0	0	Pr2				
Other	rEL	Release firmware code (read only)	0	0	Pr2				
Other	Ptb	Identify EEPROM map	1	106	Pr2	0	65535		

7.5 VALZER KW 3D PARAMETERS

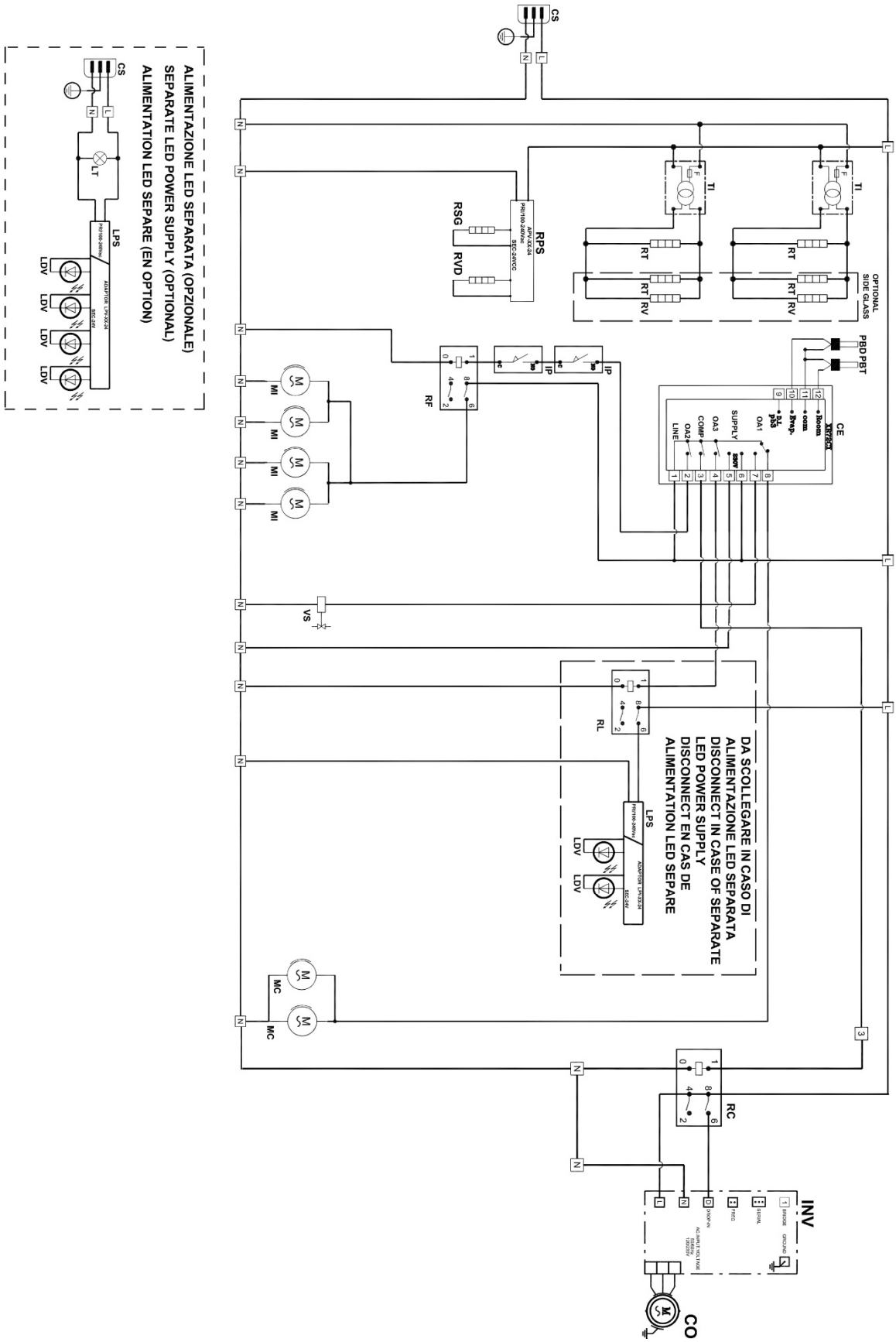
DIXELL Model : XR72CH - 230V - NTC/PTC - COD. IARP I3306764									
IA5-22 3D KW- COPY CARD COD. 74025000 Release 01_21									
Date : 08/02/2021									
Firmware: 1,8									
U.M TEMPERATURA: F°									
Group	**Parameter**	**Description**	**COPYCARD**	**Original**	**Visibility**	**Min**	**Max**	**Unity**	**Comment**
Probe	ot	Probe P1 calibration	0	0	Pr1	-12	12	°C	
Probe	P2P	Probe P2 presence	Yes	Yes	Pr1				
Probe	oE	Probe P2 calibration	0	0	Pr2	-12	12	°C	
Probe	P3P	Probe P3 presence	no	no	Pr2				
Probe	o3	Probe P3 calibration	0	0	Pr2	-12	12	°C	
Probe	P4P	Probe P4 presence	no	no	Pr2				
Probe	o4	Probe P4 calibration	0	0	Pr2	-12	12	°C	
Regulation	SEt	Set point	-4	-20		-55	25	°C	
Regulation	Hy	Compressor regulation hysteresis	3	1	Pr1	1	25	°C	
Regulation	LS	Set Point min	-22	-55	Pr2	-55	-20	°C	
Regulation	US	Set Point max	14	25	Pr2	-20	150	°C	
Regulation	odS	Output delay at start up	1	0	Pr2	0	255	min	
Regulation	AC	Anti-short cycle delay	3	3	Pr1	0	50	min	
Regulation	Ac1	Starting delay 2nd compressor	1	0	Pr1	0	255	sec	
Regulation	rtr	P1-P2 percentage for regulation	100	100	Pr2	0	100		
Regulation	CCt	Continuous cycle duration	00:00	00:00	Pr2			hour	
Regulation	CCS	Set point for continuous cycle	23	-5	Pr2	-55	150	°C	
Regulation	Con	Compressor ON time with faulty probe	8	8	Pr2	0	255	min	
Regulation	CoF	Compressor OFF time with faulty probe	6	6	Pr2	0	255	min	
Regulation	CF	Temperature measurement unit	°F	°C	Pr2				
Regulation	rES	Resolution (per °C) : decimal , integer	dE	in	Pr1				
Regulation	Lod	Local dispaly : default display	P1	P1	Pr2				
Regulation	dLy	Display temperature delay	00:03	00:00	Pr1			min	
Regulation	dtr	P1-P2 percentage for display	99	99	Pr2	1	99		
Defrost	tdF	Defrost type : resistance , invertion	in	in	Pr1				
Defrost	dFP	Probe 1 selection for defrost	P2	P2	Pr2				
Defrost	dSP	Probe 2 selection for defrost	np	nP	Pr2				
Defrost	dtE	Defrost termination temperature	50	15	Pr1	-55	50.0	°C	
Defrost	dtS	2nd Defrost termination temperature	50	8	Pr2	-55	50.0	°C	
Defrost	idF	Interval between defrost cycles	6	6	Pr1	0	120	hour	
Defrost	MdF	Maximum length for defrost	30	20	Pr1	0	255	min	
Defrost	MdS	Maximum length for 2nd defrost	0	0	Pr2	0	255	min	
Defrost	dSd	Start defrost delay	0	0	Pr2	0	255	min	
Defrost	dFd	Displaying during defrost	dEF	dEF	Pr2				
Defrost	dAd	MAX display delay after defrost	15	30	Pr2	0	255	min	
Defrost	Fdt	Draining time	3	3	Pr2	0	255	min	
Defrost	dPo	First defrost after start-up	no	no	Pr2				
Defrost	dAF	Defrost delay after fast freezing	00:00	00:00	Pr2			hour	
Fans	FnC	Fan operating mode	O-n	O-n	Pr1				
Fans	Fnd	Fan delay after defrost	7	7	Pr1	0	255	min	
Fans	FCt	Differential of temperature for forced activation of fans	0	0	Pr2	0	50	°C	
Fans	FSt	Fan stop temperature	122	50	Pr1	-55	50.0	°C	
Fans	Fon	Fan on time with compressor off	0	0	Pr2	0	15	min	
Fans	FoF	Fan off time with compressor off	0	0	Pr2	0	15	min	
Fans	FAP	Probe selection for fan management	P2	P2	Pr2				
Ausiliary	ACH	Type of action ausialiary regulator	cL	cL	Pr2				
Ausiliary	SAA	Set point ausialiary regulator	0	0	Pr2	-55	150	°C	
Ausiliary	SHy	Differential for ausialiary regulator	4	2	Pr2	1	25	°C	
Ausiliary	ArP	Select probe for ausialiary regulator	nP	nP	Pr2				
Ausiliary	Sdd	Block regolator AUX during defrost	no	no	Pr2				
Alarm	ALC	Configuration alarms : relative / absolute	Ab	Ab	Pr2				
Alarm	ALU	Maximum alarm temperature 1	122	50	Pr1	-50	150	°C	
Alarm	ALL	Low temperature alarm	-58	-50	Pr1	-55	50	°C	
Alarm	AFH	Differential for temperat. alarm recovery 1	4	2	Pr2	1	25	°C	
Alarm	ALd	Temperature alarm delay 1	60	60	Pr2	0	255	min	
Alarm	dAo	Delay of temperature alarm at start up 1	02:00	03:00	Pr2			hour	
Alarm	AP2	Probe for temperat. alarm of condenser 2	nP	nP	Pr2				
Alarm	AL2	Alarm threshold of low temperature probe 2	-67	-55	Pr2	-55	150	°C	
Alarm	AU2	Alarm threshold of high temperature probe 2	230	110	Pr2	-55	150	°C	
Alarm	AH2	Differential for temperature alarm probe 2	10	5	Pr2	1	25	°C	
Alarm	Ad2	Delay alarm temperature probe 2	120	120	Pr2	0	255	min	
Alarm	dA2	exclusion alarm temperature at power-on	02:00	02:00	Pr2			hour	
Alarm	bLL	Compressor block for per low temperature alarm 2	no	no	Pr2				
Alarm	AC2	Compressor block for per high temperature alarm 2	no	no	Pr2				
Configuration	oA1	Configuration function exit AUX1	dEF	dEF	Pr2				
Configuration	oA2	Configuration function exit AUX2	Fan	FAn	Pr2				
Configuration	oA3	Configuration function exit AUX3	LiG	LiG	Pr2				
Digital input	i1P	Polarity digital input	cL	cL	Pr1				
Digital input	i1F	Function digital in	dor	dor	Pr1				
Digital input	did	Alarm delay from digital configurable in	255	255	Pr1	0	255	min	
Digital input	nPS	Numbers of action of preassure switch	15	15	Pr2	0	15		
Digital input	Odc	Open door control : fans and compressor	no	no	Pr2				
Alarm	rrd	Restart regulation with open door alarm	Yes	Yes	Pr2				
Energy Saving	HES	Temperature increasing at Energy Saving	0	0	Pr2	-30	30	°C	
Other	Adr	Serial address	1	1	Pr2	1	247		
Probe	pbC	Select probe type	ntC	ntC	Pr1				
Configuration	onF	Configuration button OFF	no	no	Pr2				
Configuration	LPC	Configuration LIGHT function button	Lig	Lig	Pr2				
Other	dP1	Display probe P1	0	0	Pr2				
Other	dP2	Display probe P2	0	0	Pr2				
Other	dP3	Display probe P3	0	0	Pr2				
Other	dP4	Display probe P4	0	0	Pr2				
Other	rSE	Display regulation set (SET + ES + SETd)	0	0	Pr2				
Other	rEL	Release firmware code (read only)	0	0	Pr2				
Other	Ptb	Identify EEPROM map	1	106	Pr2	0	65535		

7.6 VALZER KW 4D PARAMETERS

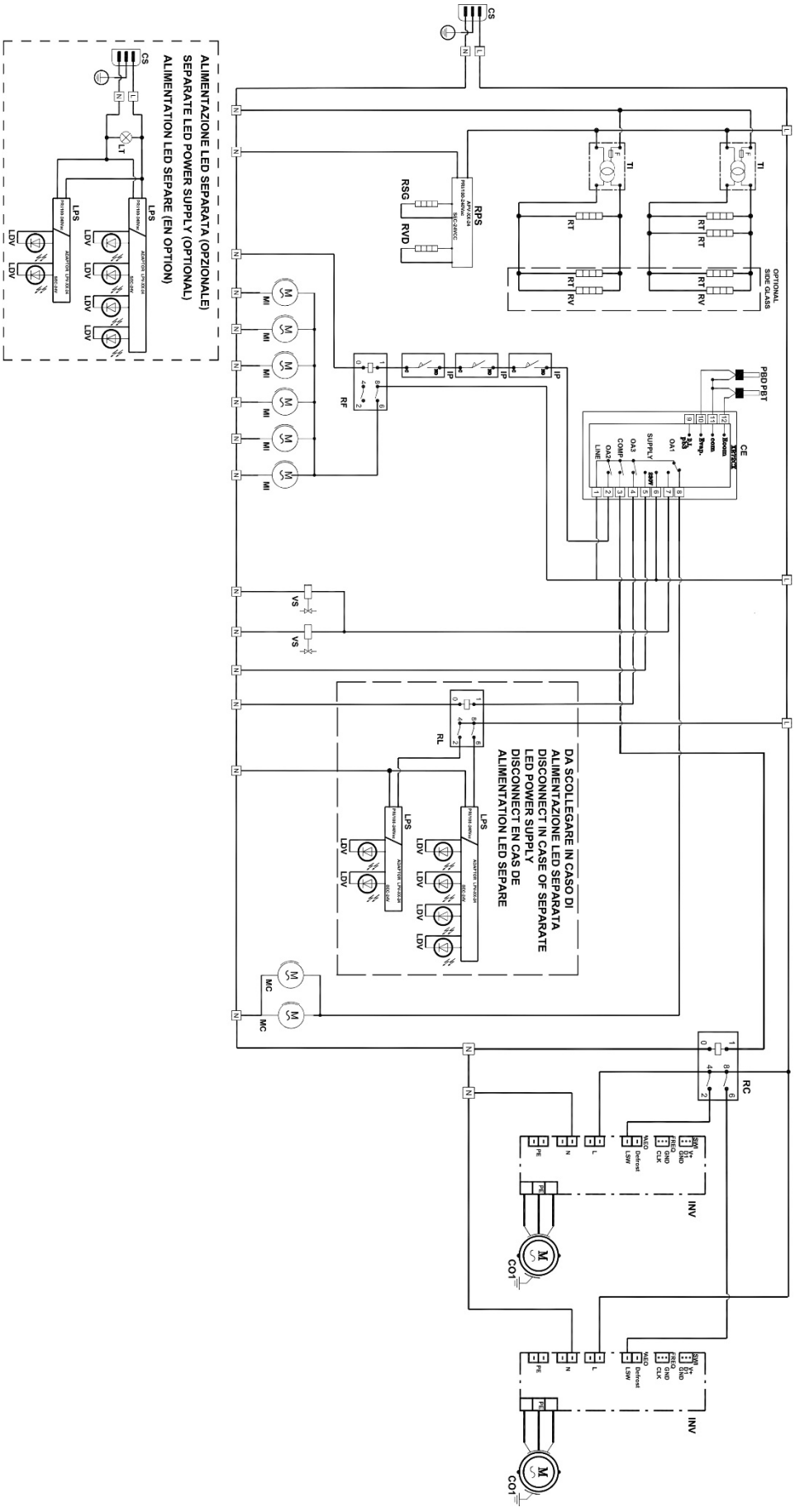
DIXELL Model : XR72CH - 230V - NTC/PTC - COD. IARP I3306764									
IA5-22 4D KW- COPY CARD COD. 74053000 Release 01_21									
Date : 08/02/2021									
Firmware: 1,8									
U.M TEMPERATURA: F°									
Group	**Parameter**	**Description**	**COPYCARD**	**Original**	**Visibility**	**Min**	**Max**	**Unity**	**Comment**
Probe	ot	Probe P1 calibration	0	0	Pr1	-12	12	°C	
Probe	P2P	Probe P2 presence	Yes	Yes	Pr1				
Probe	oE	Probe P2 calibration	0	0	Pr2	-12	12	°C	
Probe	P3P	Probe P3 presence	Yes	no	Pr2				
Probe	o3	Probe P3 calibration	0	0	Pr2	-12	12	°C	
Probe	P4P	Probe P4 presence	no	no	Pr2				
Probe	o4	Probe P4 calibration	0	0	Pr2	-12	12	°C	
Regulation	SEt	Set point	-9	-20		-55	25	°C	
Regulation	Hy	Compressor regulation hysteresis	2	1	Pr1	1	25	°C	
Regulation	LS	Set Point min	-22	-55	Pr2	-55	-20	°C	
Regulation	US	Set Point max	14	25	Pr2	-20	150	°C	
Regulation	odS	Output delay at start up	1	0	Pr2	0	255	min	
Regulation	AC	Anti-short cycle delay	3	3	Pr1	0	50	min	
Regulation	Ac1	Starting delay 2nd compressor	1	0	Pr1	0	255	sec	
Regulation	rtr	P1-P2 percentage for regulation	100	100	Pr2	0	100		
Regulation	CCt	Continuous cycle duration	00:00	00:00	Pr2			hour	
Regulation	CCS	Set point for continuous cycle	23	-5	Pr2	-55	150	°C	
Regulation	Con	Compressor ON time with faulty probe	8	8	Pr2	0	255	min	
Regulation	CoF	Compressor OFF time with faulty probe	6	6	Pr2	0	255	min	
Regulation	CF	Temperature measurement unit	°F	°C	Pr2				
Regulation	rES	Resolution (per °C) : decimal , integer	dE	in	Pr1				
Regulation	Lod	Local dispaly : default display	P1	P1	Pr2				
Regulation	dLy	Display temperature delay	00:03	00:00	Pr1			min	
Regulation	dtr	P1-P2 percentage for display	99	99	Pr2	1	99		
Defrost	tdF	Defrost type : resistance , invertion	in	in	Pr1				
Defrost	dFP	Probe 1 selection for defrost	P2	P2	Pr2				
Defrost	dSP	Probe 2 selection for defrost	P3	nP	Pr2				
Defrost	dtE	Defrost termination temperature	41	15	Pr1	-55	50.0	°C	
Defrost	dtS	2nd Defrost termination temperature	41	8	Pr2	-55	50.0	°C	
Defrost	idF	Interval between defrost cycles	6	6	Pr1	0	120	hour	
Defrost	MdF	Maximum length for defrost	30	20	Pr1	0	255	min	
Defrost	MdS	Maximum length for 2nd defrost	0	0	Pr2	0	255	min	
Defrost	dSd	Start defrost delay	0	0	Pr2	0	255	min	
Defrost	dFd	Displaying during defrost	dEF	dEF	Pr2				
Defrost	dAd	MAX display delay after defrost	15	30	Pr2	0	255	min	
Defrost	Fdt	Draining time	3	3	Pr2	0	255	min	
Defrost	dPo	First defrost after start-up	no	no	Pr2				
Defrost	dAF	Defrost delay after fast freezing	00:00	00:00	Pr2			hour	
Fans	FnC	Fan operating mode	O-n	O-n	Pr1				
Fans	Fnd	Fan delay after defrost	7	7	Pr1	0	255	min	
Fans	FCt	Differential of temperature for forced activation of fans	0	0	Pr2	0	50	°C	
Fans	FSt	Fan stop temperature	122	50	Pr1	-55	50.0	°C	
Fans	Fon	Fan on time with compressor off	0	0	Pr2	0	15	min	
Fans	FoF	Fan off time with compressor off	0	0	Pr2	0	15	min	
Fans	FAP	Probe selection for fan management	P2	P2	Pr2				
Ausiliary	ACH	Type of action ausialiary regulator	cL	cL	Pr2				
Ausiliary	SAA	Set point ausialiary regulator	0	0	Pr2	-55	150	°C	
Ausiliary	SHy	Differential for ausialiary regulator	4	2	Pr2	1	25	°C	
Ausiliary	ArP	Select probe for ausialiary regulator	nP	nP	Pr2				
Ausiliary	Sdd	Block regolator AUX during defrost	no	no	Pr2				
Alarm	ALC	Configuration alarms : relative / absolute	Ab	Ab	Pr2				
Alarm	ALU	Maximum alarm temperature 1	122	50	Pr1	-50	150	°C	
Alarm	ALL	Low temperature alarm	-58	-50	Pr1	-55	50	°C	
Alarm	AFH	Differential for temperat. alarm recovery 1	4	2	Pr2	1	25	°C	
Alarm	ALd	Temperature alarm delay 1	60	60	Pr2	0	255	min	
Alarm	dAo	Delay of temperature alarm at start up 1	02:00	03:00	Pr2			hour	
Alarm	AP2	Probe for temperat. alarm of condenser 2	nP	nP	Pr2				
Alarm	AL2	Alarm threshold of low temperature probe 2	-67	-55	Pr2	-55	150	°C	
Alarm	AU2	Alarm threshold of high temperature probe 2	230	110	Pr2	-55	150	°C	
Alarm	AH2	Differential for temperature alarm probe 2	10	5	Pr2	1	25	°C	
Alarm	Ad2	Delay alarm temperature probe 2	120	120	Pr2	0	255	min	
Alarm	dA2	exclusion alarm temperature at power-on	02:00	02:00	Pr2			hour	
Alarm	bLL	Compressor block for per low temperature alarm 2	no	no	Pr2				
Alarm	AC2	Compressor block for per high temperature alarm 2	no	no	Pr2				
Configuration	oA1	Configuration function exit AUX1	dEF	dEF	Pr2				
Configuration	oA2	Configuration function exit AUX2	Fan	FAn	Pr2				
Configuration	oA3	Configuration function exit AUX3	LiG	LiG	Pr2				
Digital input	i1P	Polarity digital input	cL	cL	Pr1				
Digital input	i1F	Function digital in	dor	dor	Pr1				
Digital input	did	Alarm delay from digital configurable in	255	255	Pr1	0	255	min	
Digital input	nPS	Numbers of action of preassure switch	15	15	Pr2	0	15		
Digital input	Odc	Open door control : fans and compressor	no	no	Pr2				
Alarm	rrd	Restart regulation with open door alarm	Yes	Yes	Pr2				
Energy Saving	HES	Temperature increasing at Energy Saving	0	0	Pr2	-30	30	°C	
Other	Adr	Serial address	1	1	Pr2	1	247		
Probe	pbC	Select probe type	ntC	ntC	Pr1				
Configuration	onF	Configuration button OFF	no	no	Pr2				
Configuration	LPC	Configuration LIGHT function button	Lig	Lig	Pr2				
Other	dP1	Display probe P1	0	0	Pr2				
Other	dP2	Display probe P2	0	0	Pr2				
Other	dP3	Display probe P3	0	0	Pr2				
Other	dP4	Display probe P4	0	0	Pr2				
Other	rSE	Display regulation set (SET + ES + SETd)	0	0	Pr2				
Other	rEL	Release firmware code (read only)	0	0	Pr2				
Other	Ptb	Identify EEPROM map	1	106	Pr2	0	65535		

8. WIRING DIAGRAM

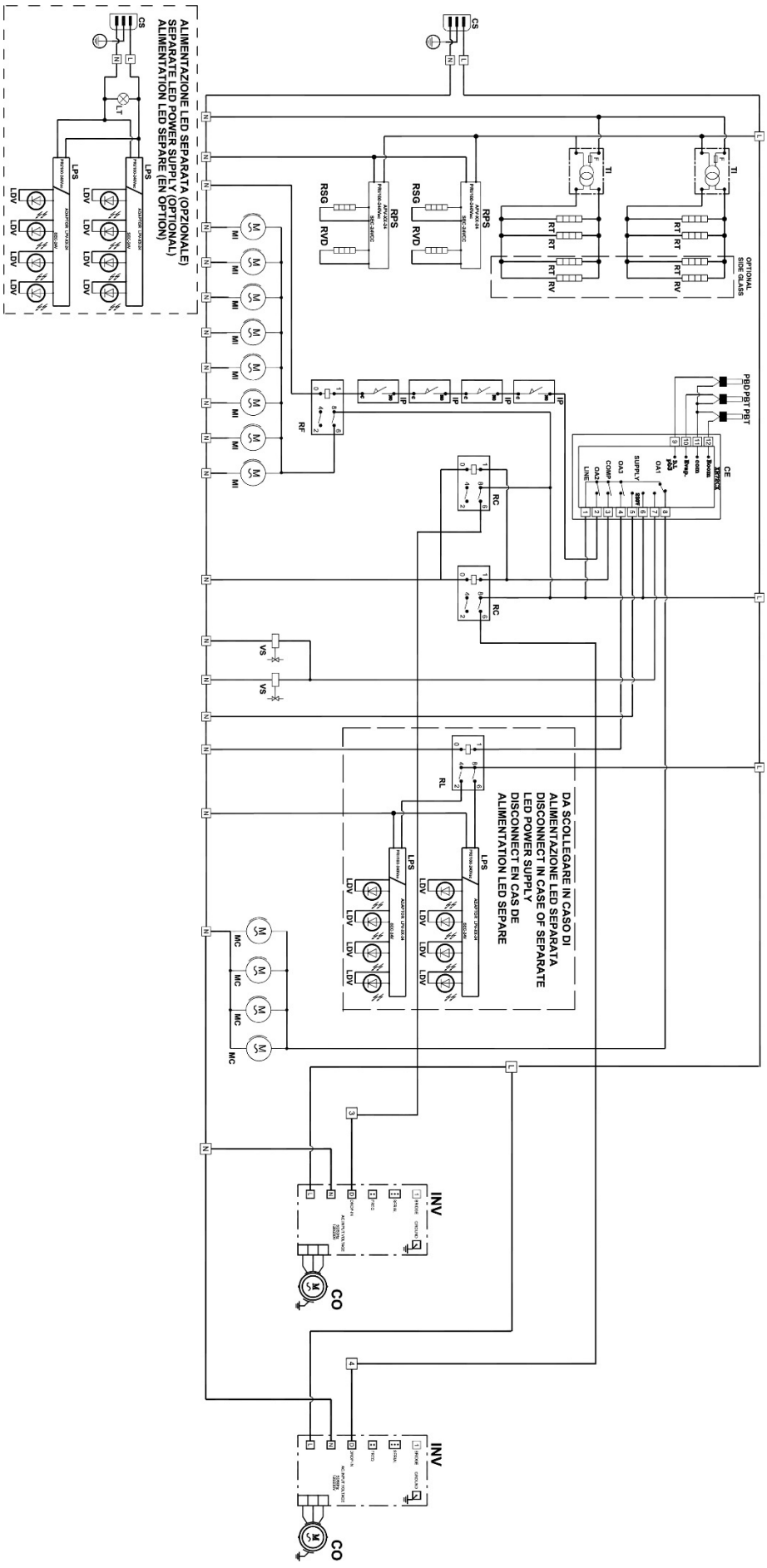
8.1 VALZER KW 2D WIRING DIAGRAM



8.2 VALZER KW 3D WIRING DIAGRAM



8.3 VALZER KW 4D WIRING DIAGRAM



8.4 WIRING DIAGRAM LEGEND

REF	DEVICE
CE	ELECTRONIC CONTROL
CO	COMPRESSOR
CS	PLUG CABLE
F	TRANSFORMER FUSE
INV	LIGHT SWITCH
IP	INTERNAL MOTOR FAN MICROSWITCH
LDV	TANK INNER LED LIGHT
LPS	LED POWER SUPPLY UNIT
LT	SUPPLY LINE LED ALIGHT
MC	CONDENSER MOTOR FAN
MI	INNER MOTORISED FAN
PBD	DEFROST END PROBE
PBT	TEMPERATURE PROBE
RC	COMPRESSOR RELAY
RF	FAN RELAY
RL	LED RELAY
RPS	RESISTOR POWER SUPPLY UNIT
RSG	WATER DRAINAGE RESISTOR
RRC	RETARDED COMPRESSOR RELAY
RT	DOOR RESISTOR
RV	GLASS RESISTOR
RVD	DECOMPRESSION VALVE RESISTANCE
TI	ISOLATION TRANSFORMER
VS	DEFROST VALVE