

TECNOFREEZE s.r.l.

CONTINUOUS FREEZER

“CF400”

MW
Technical Instructions
MACHINERY WORLD

Serial No.:

Drawn up by the Technical Office of
TECNOFREEZE SRL

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GUARANTEE

By the present we are certifying that TECNOFREEZE guarantee their product/s is/are free from defects imputable to bad construction or defective construction materials.

TECNOFREEZE refuse any responsibility linked to either vices or hidden defects found on commercial components, even if supplied by primary national and international Companies, but not made by TECNOFREEZE.

For such an occasion , in case they occur, TECNOFREEZE will arrange to turn the Customers the Guarantee exactly like supplied by the component makers and to give the right assistance to users.

The parts either to repair or to replace will have to be sent from the Customer to our Premises, at Customer's charge, only after our guarantee acceptance.

What the Guarantee covers

The Guarantee covers the cost of the replacement of the defective parts, either of their repair or of their replacement with equivalent parts, according to the agreement of each case.

What the Guarantee does not cover

The present Guarantee does not apply to either damaged parts or damaged products during transport, installation, or repair or for improper usage, overload, negligence, inadequate lubrication, normal wear and tear, usage of unoriginal TECNOFREEZE spare parts, or for any other improper usage or accident or carelessness by following the instructions of the present operation and maintenance manual.

The Guarantee is not applicable if the user uses the product in an irresponsible way or if some modifications have been carried out on the product, that according to TECNOFREEZE, may have occasioned or worsened the damage or worsened the damage either if some seals may be removed or the setting values have been modified

This Guarantee does not cover any other casual charges, consequential or incidental expenses such as shipping charges for servicing staff, extraordinary charges due to difficult access of the machinery installed, loss of profit, waste of time, damage to other parts or goods other than TECNOFREEZE products provided for herein.

for herein.

TECNOFREEZE do not authorize a third party to take any other responsibilities in relation to the sale of their own products, besides what expressly indicated herein .

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Guarantee Period

The guarantee period begins from the delivery date to the first owner/user.

TECNOFREEZE guarantee the machine for a period of twelve months as for the mechanical components, and for six months as for the electrical part.

Operations carried out before delivery

Before leaving the factory, all the products are carefully tested to make sure that they fulfil TECNOFREEZE quality standard and specifications.

Production Modifications

TECNOFREEZE reserve the right to carry out modifications to the products made and sold at any time and without notice and without obligation to update the products previously manufactured or sold .

TECNOFREEZE

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27010 MIRADOLO TERME (PV) – ITALY

CE

Model	Cycles
Serial No.	Power
Year	Freon Gas
Voltage	Quantity
Thermal Capacity	Air Cons.

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The machine shall be linked to an electrical plant equipped with a safety switch and meeting the requirements fixed by the safety standards applicable.

CHAP.1 – TECHNICAL DESCRIPTION OF THE MACHINE

The continuous freezer is fully built in stainless steel with detachable lateral panels that allow an easy access inside for cleaning, inspection and maintenance.

The main body includes:

- freezing barrel (Fig.A
- Pos.1)
- mixture pump, air valve and speed variator group(Fig.B
- Pos. 1)
- DASHER drive geared motor.....(Fig.A
- Pos.2)
- compressor and relative refrigerator circuit.....(Fig.A
- Pos.3)
- electric circuit.....(Fig.C
- Pos.1)
- hydraulic circuit.....(Fig.A
- Pos.4)
- control board.....(Fig.B
- Pos.2)
- stainless steel AISI 304 frame and panels

On the front part of the machine are mounted:

- air/mixture pump.....(Fig.B-
Pos.1)
- pump speed control hand-wheel.....(Fig.B-
Pos.3)
- hot gas flow regulation hand-wheel(Fig.B-
Pos.4)
- safety valve.....(Fig.B-
Pos.5)

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- ice cream mixture pressure gauge.....(Fig.B-Pos.9)

- control board with relative instruments.....(Fig.B-Pos.2)

All the electric control appliances for machine operation are contained inside the upper carter.

Every switch or warning light indicates its own function in the upper part.

For the control of machine operation the control board has also been provided with:

- an ammeter that indicates the absorption of the beater motor, of the shaft, therefore the product hardness in the barrel. The ammeter is equipped with a maximum amperage that can be set by the operator so as to check the ice cream consistency.....(Fig.E-Pos.1).

- a stroke counter that indicates the number of strokes per minute of the ice cream mixture suction pump.....(Fig.E-Pos.2)

- a gauge of Freon gas expansion.....(Fig.E-Pos.4)

- a gauge of Freon gas condensation.....(Fig.E-Pos.3)

On the rear of the machine are mounted:

- a pipe fitting for condensation water inlet..... (Fig.D-Pos.1)

-a pipe fitting for condensation water outlet(Fig.D-Pos.2)

The inlet and outlet are marked by small adhesive plates.

FREEZER TECHNICAL DATA

Model	CF 200	CF 300	CF 400	CF 600**	CF 800**
Ice cream production lt/h *	200	300	400	600	800
Max overrun at steady state	100%	100%	100%	100%	100%
Compressor HP	3	5	7.5	5+5	7.5+7.5
Dasher motor HP	3	4	5.5	5.5+5.5	5.5+5.5
Pump motor HP	1	1	1	1+1	1+1
Well water consumption lt/h	400	700	850	1400	1700
Tower water consumption lt/h	820	1480	1880	2960	3760
Mixture inlet temperature °C	+4	+4	+4	+4	+4
Mixture outlet temperature °C	-6	-6	-6	-6	-6
Refrigerant gas R	R404A	R404A	R404A	R404A	R404A
Quantity KG	6	8	8.5	8+8	8.5+8.5

* With overrun 100 %

** With double refrigeration barrel

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CHAP.2 – Structures and Access Ways (Ergonomy)

The machine in subject is so dimensioned that it does not need any means of access, if its usage complies with its geometrical dimensions.

Should the user, owing to its dimensions, for his/her own needs use the machine on a raised position, it will be up to him/her to see about the matter.

The machine is equipped with 04 (Four) adjustable feet for the positioning on the floor.

CHAP.3 – Movement and Machine Installation

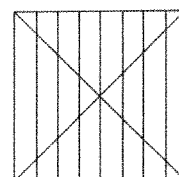
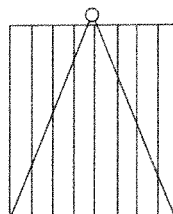
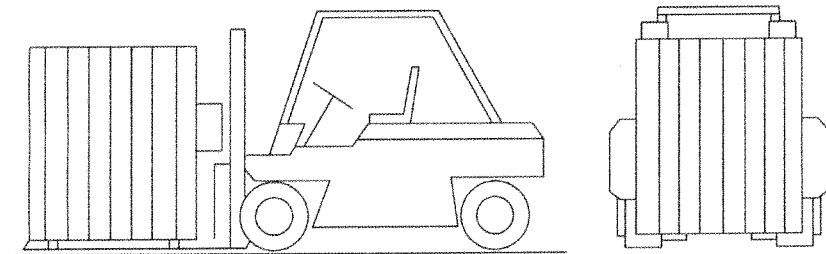
The total mass of the machine is indicated in the table hereunder and you will have to consider that in the choice of the lifting means, as well as in the evaluation of the place where it will be installed.

In no case the manual handling will have to be allowed.

The staff carrying out handling operations will have to wear some protective gloves and some accident –prevention shoes with metal toe. They will also wear some clothes offering no hooking points to the protruding parts of the machine.

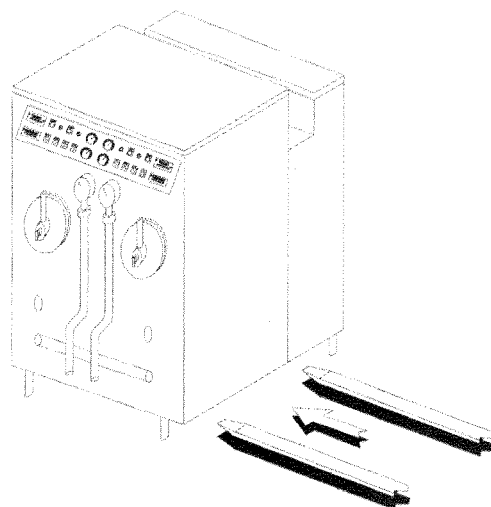
If the machine handling is carried out by crane or travelling bridge crane, these will have to have a load capacity suitable to the machine lifting, it is compulsory to foresee the rope or belt fixings (Ref.2).

For the lifting of the machine in its package (Ref.1) it is sufficient to use a fork lift truck, as indicated.

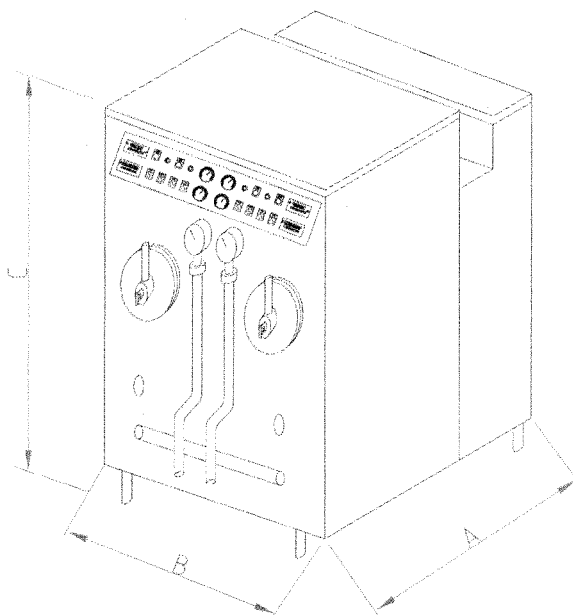


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For the lifting of the machine without package, start the handling by a fork lift truck as indicated in figure (Ref.3).



DIMENSIONS AND WEIGHT OF THE MACHINE



Model	CF 200	CF 300	CF 400	CF 600**	CF 800**
Length (mm) A	1450	1650	1650	1650	1650
Width (mm) B	730	730	730	960	960
Height (mm) C	1620	1620	1620	1620	1620
Weight (Kg)	320	450	500	850	950
Power installed (Kw)	6	8.5	10.5	17	21

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CHAP.4 – SAFETY GEARS: TEST AND SETTING

1. Place the machine in the assigned position and make it level by acting on the adjustable feet.
2. Fix the general switch with the relative thermal and magneto-thermal cut-out on the wall and then connect it to the feeding electric network.
3. Make sure that the mains voltage corresponds to what the machine has been arranged.
4. Remove the side panels and check the rotation direction of the shaft motor corresponds to that indicated by the arrows. In any case the beater must rotate clockwise.
5. Remove the adhesive tape that fixes the scraper blades to the beater. (For the beater extraction wear protective gloves).

Remove the locking brackets from the compressor .

CHAP.5 - INSTRUCTIONS FOR USE AND SETUP OF THE MACHINE BEFORE OPERATION

ATTENTION! The machine is sent with all the refrigeration circuit cocks set to working position. So for the start it is necessary to adjust them.

Connect the well water piping to the pipe holding nozzle (Fig.D – Pos. 1) marked “ENTRATA” (“INLET”) , connect the piping (Fig.D – Pos.2) marked “SCARICO” (“OUTLET”) to the draining pipe.

The connection pipes must not have the diameter inferior to those already mounted on the machine and pipe throttling shall also be avoided. When plates have not been fixed to the machine, the inlet pipe is that one on which the water flow control valve is mounted (Fig. D – Pos. 3).

Never use any mixes that have a temperature exceeding $+4^{\circ}/+5^{\circ}$ C.

If for any reasons beyond control mixture temperatures should exceed the above mentioned values, reduce the pump speed to minimum.

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Operation

Turn the general wall switch on fixed on the electrical control board.

Before starting production arrange for the machine disinfection and cleaning (See “Daily cleaning of the machine”).

Connect the suction pipe (Fig.B – Pos. 7) of the pump to the container of the mixture.

Drive the mains switch placed on the machine board (Fig.E- Pos.5).

Start the pump by driving the switch (Fig.E – Pos.9) then adjust the delivery capacity to minimum by rotating the hand-wheel (Fig.B –Pos.3) by reading the value on the control board (Fig.E- Pos.2).

Wait until the mixture starts to come out of the pipe then stop the pump.

After stopping the pump start the switch (Fig.E- Pos.8) to drive the shaft by rotating the hand-wheel (Fig.E – Pos.9) that starts the refrigerator compressor.

After these operations the mixture hardening inside the barrel begins.

The mixture hardness is controllable through the ammeter (Fig.C – Pos. 1) that indicates the motor effort proportionally to the product hardness (4-5 Amp.).

When the mixture has got the desired hardness restart the pump and adjust both the delivery capacity and the air quantity to put into the product.

Air regulation (Fig.B – Pos.8)

The mixture pump is provided with a special valve (Fig.B – Pos.8) that controls the air quantity to put into the product.

You get the regulation of such a valve by means of a knurled ring nut that is situated between the two springs of the valve itself.

By screwing down the ring nut the air quantity brought in increases, vice versa it reduces.

The operations to carry out are the following:

- 1) At the beginning of the hardening cycle when the barrel is full and the pump stops, close the air valve by unscrewing it.
- 2) When you start the pump and the product begins to come out of the pipe in a continuous way, begin opening the valve (Fig.B- Pos.8) by screwing down the knurled ring nut for about $\frac{1}{4}$ turn a time. After every adjustment wait for some minutes so that the product feels the effects of the new condition.

Keep in mind that, by opening the air valve excessively, the product might come out of the machine in a discontinuous and irregular way with the formation of air bubbles inside.

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In such a case reduce the air quantity brought in :

For homogenized and balanced mixtures, the overrun obtainable is 100% and over, obviously mixtures with features different from the standard ones will give lower overrun values and these values will be proportional to the quality of the mixtures.

When the pump does not suck properly this can be due to:

- a) Suction pipe is not airtight;
- b) Worn gaskets;
- c) Ball valve that leaks;
- d) Improper mechanical operation.

Therefore when the pump gives symptoms of improper operation check:

- a) that the suction piping connected to the entry (Fig.B- Pos.7) has not any leaks from which air may get in;
- b) the efficiency of the gaskets, especially the gasket inside the barrel ; in case replace it;
- c) that the valve (Fig.F – Poss.2 and 3) located in the head of the pump closes well and that the seat is not worn; in case replace the ball.

CHAP.6 – INSTRUCTIONS FOR THE MAINTENANCE

At least every two hundred hours check the oil in the pump speed reduction gear, add, if necessary (Fig.A- Pos.6) oil for reduction gears.

For the assembling and the disassembling of the pump and of the air valves see Fig.F.

By screwing the adjustment screw (Fig.F- Pos.1) the pressure in the freezing barrel increases by helping the air incorporation with the mixture (Overrun).

In any case never tighten the screw (Fig.F- Pos-1) to its maximum limit, the excessive pressure increase can cause troubles to the mechanical parts of the machine.

The control board instruments (Fig.E) allow to follow the different stages of the operations.

The ammeter (Fig.E- Pos.1) indicates the absorption of the dasher motor and therefore the product consistency.

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The expansion pressure gauge (Fig.E – Pos.4) follows the work conditions of the compressor motor unit and if the unit functioning is regular it should indicate a suction temperature of $-27 / - 30$ °C, when the machine is in production .

The valve (Fig.B – Pos. 5) is a safety one and it discharges the mixture in case the pressure in the barrel increases excessively. A knurled ring nut allows to increase the valve spring pressure.

REMARK – The sequence of dasher and compressor starting operations can not be inverted, as there is an electric safety lock that prevents it.

The freezing compressor, during the ordinary machine operation, may also stop for the following reasons:

- 1) The low pressure switch has tripped (Fig.C – Pos.3) that is when the refrigeration units in the return circuit exceed the requirement and the product temperature tends to become too low. The compressor will start again automatically as soon as the temperature increases inside the barrel.
- 2) The Ampere absorption has reached the maximum set value, it will start again automatically as soon as the absorption value decreases.

The refrigeration plant is equipped with a defrosting device with hot gas. Such a device needs only for emergency cases, that is either when electric power goes out or when for any reason the mixture pump stops.

In these cases the product, staying inside the circuit longer than necessary, either gets cold or it hardens in such a way to cause the dasher motor block.

Therefore, under such conditions it is necessary to stop the beater and the compressor motors and turn on the switch (Fig.E – Pos.6) that start the hot gas solenoid valve (Fig.A- Pos.5), wait for about a minute, then turn the switch off (Fig.E – Pos.6) that stops the defrosting action and close the register, by rotating the flow adjusting valve knob (Fig.B Pos.4).

After that the machine is ready to resume the production.

When you want to get only partially hardened mixtures as in the case of ice cream used either for the production of extruded products or stick products with a relatively low production speed, you use the defrosting device as a choker in the following way:

- 1) Set the machine to production and adjust the pump speed so as to get the desired production.
- 2) Close the on-off valve manually (Fig.B – Pos.4).
- 3) Turn the switch button (Fig.E – Pos.6) to open the hot gas solenoid valve.

Open the flow adjusting valve (Fig.B – Pos.4) slowly till you get the desired product consistency.

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Daily Machine Cleaning

Without starting the compressor, operate the pump and suck either 15 or 20 Litres of water at 30/40°C max mixed with a neutral detergent , leave pump and beater on until the water has been sucked.

Repeat the operation with plain, clean and cold water to rinse. After the second operation, stop both the pump and the beater and unscrew the pipe-fitting (Fig.B- Pos.8) of the pump delivery pipe so as to discharge all the water staying in the barrel.

Periodically it is necessary to disassemble and clean all the parts of the pump and of the machine that are in contact with the mixture thoroughly , replace the worn gaskets if necessary; for assembling refer to Figures F/G.

Scraper Blade Cleaning

The scraper blades of the freezer are in AISI 420 martensitic stainless steel with predetermined hardness, so after washing the blades with a detergent solution and rinsing them thoroughly with water, dry them with a dry cloth , or better, by compressed air, spread either with alimentary oil or with Vaseline.

This simple operation prevents blades from getting stained .

The products used to clean and sanitize must not corrode the mechanical parts they come into contact with.

To get a more rational cleaning you can disassemble the beater and the rear breech, as shown in Fig.G.

To disassemble the beater, remove first the front cap, then the support ring.; extract the complete beater from the barrel by paying attention not to scratch the blades on the barrel, they must be extracted from their seats.

To disassemble the rear breech proceed in the following way:

- 1) Remove the back-pressure assembly 1-9 (Fig.G – Pos.1-9);
- 2) Remove the Dasher (Fig.G – Pos.15) (see chapter 8- Risk Evaluation);
- 3) Disassemble by means of a hook wrench the pipe union that links the breech to the mixture delivery pipe;
- 4) Rotate the breech by a ¼ turn clockwise and then extract it (Fig.A – Pos.7);
- 5) Extract the fixed part of the rotating seal by exerting a slight pressure from outside inwards (Fig. G – Pos.19);
- 6) Remove the O ring OR (Fig.G – Pos.20);

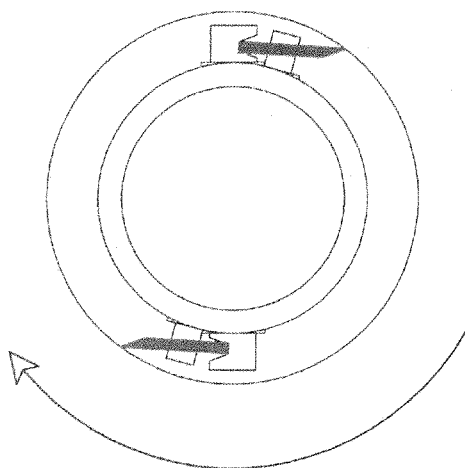
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- 7) Proceed to the cleaning with lukewarm water and detergent, reassemble all the components by following the reverse procedure and by taking care to lubricate either with alimentary oil or Vaseline.

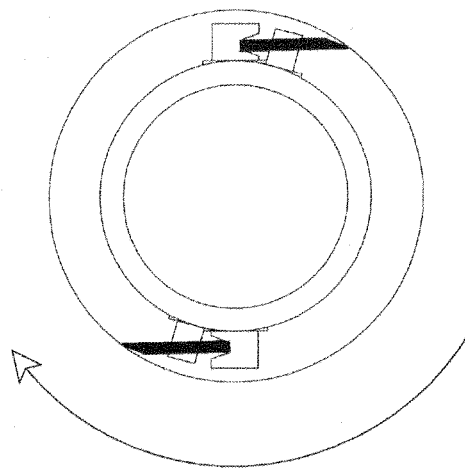
After cleaning make sure that the seal ring (Fig.G – Pos.18) mounted on the dasher slides freely, and that the scraper blades are perfectly fitted on their positioners. Place the complete beater assembly into the barrel carefully by paying attention to insert it into its seat. Reassemble the front cap (Fig.G – Pos.9) by positioning the centering ring into its suitable seat (Fig.G – Pos.11).

WHEN YOU REASSEMBLE THE BEATER ALWAYS USE THE PLASTIC RING WITH CONICAL GROOVE SUPPLIED WITH THE MACHINE: THIS WILL PREVENT BARREL EDGES FROM GETTING DAMAGED.

Scraper blade assembling and rotation direction



Correct assembling



Wrong assembling

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MECHANICAL MAINTENANCE

The maintenance of the mechanical parts consists of:

- a) Control of the bushings, in which the shaft turns, if they are worn replace them.
- b) Check of the scraper blades that must be settled on their tines so that they can not come out during operation. If the scraper blade cutting edge presents any imperfections have the blades either sharpened or replaced.
- c) Control of the rotating seal situated at the end of the dasher (Fig.G- Pos.18).

The rotating seal (Fig.G – Pos.18) has a hard metal inserted seat that, pressed by a spring (Fig.GPos.17), slides against the face of the fixed counterseal (Fig.G – Pos. 19).

These two surfaces must always have a mirror finish, otherwise the mixture comes out from the rear of the barrel.

In order to make the two surfaces smooth use fine-grained emery and rub them first against a very hard plane (glass) and then one against the other in the same way that you do to emery the valves.

If the O rings are worn replace them.

- d) Control of the reduction gear: check periodically that there is oil in the reduction gear.

The control takes place through the oil window situated on a side of the reduction gear itself, a probable filling up takes place through the special oil cap (Fig.A – Pos.6).

ELECTRIC PLANT

The electric plant has been so conceived as to protect the machine components at maximum.

Should one or more motors stop, before carrying out any interventions in the electric plant, remove the machine panel and make sure that the thermal cutouts have not tripped. If so, reset them manually.

If only the compressor motor stops, check both the thermal cutout and the pressure switch (Fig.C- Pos.3) this could have its contacts open or it could be out of order.

These operations must be carried out before intervening on the electric plant.

For maintenance and possible repairs we recommend you to apply to either an electrician or a refrigeration engineer.

REFRIGERATION PLANT

The refrigeration plant must be checked and possibly repaired only by a reliable refrigeration engineer.

The causes of the faulty operation of the refrigeration plant can be:

- 1) Insufficient condensation.

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- 2) Thermal expansion valve (thermostat) either incorrectly rated or out of order.
- 3) Line filter either dirty or however clogged.
- 4) Solenoid valve (Fig.A – Pos.5) either jammed or closed.
- 5) Gas shortage in the plant.

The insufficient condensation may be due to:

- a) Water shortage coming from the mains.
- b) Flow control valve (Fig.D – Pos.3) is badly rated.

In the first case make sure that all the line cocks carrying the water to the machine are open and that the water flows to the machine regularly.

To adjust the water flow control valve act on the screw (or cap) situated on the head of the valve itself.

If the valve is properly rated, the temperature of the outlet water going when the compressor is working will have to range between about +30 and +35°C.

CHAP.7- INSTRUCTIONS FOR REPLACEMENT OF PARTS SUBJECT TO WEAR

The parts subject to wear and therefore to a periodic replacement, are:

- a) all the O rings, particularly those relative to the pump in the piston sliding seat and to the rotating seal, for this reason a set of gaskets is supplied as equipment;
- b) the air valve springs;
- c) the fixed part of the rotating seal;
- d) the Dasher scraper blades.

These parts are to be tested periodically and if in bad conditions, they have to be replaced.

CHAP. 8 – RISK EVALUATION AND CORRECT WAYS FOR THEIR REMOVAL

- a) RISK OF INJURY DURING SIDE ACCESS TO THE DASHER.
- b) RISK OF INJURY DURING DASHER EXTRACTION FROM THE BARREL.

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It is necessary to wear some protection gloves to avoid cutting your hands, compatibly when you extract or replace the dasher. Light thick-knit cotton gloves are advised.

c) **RISK FOR SCARCE ILLUMINATION IN THE WORKING AREA.**

In the working area illumination should be of 800 lux at least, under conditions of ordinary cleaning.

d) **ACCUMULATION OF ELECTROSTATIC CHARGES.**

Provide for the dispersion of the electrostatic charges.

e) **RISK OF ACCIDENTAL DASHER STARTING.**

Some special mechanical locks are arranged to prevent the dasher from being started accidentally through a proximity switch before the barrel cap has been reassembled.

In order to avoid the risk of injury for the operator it is necessary that:

before starting any interventions, it is compulsory to CUT OFF the current to the control board.

CHAP. 9 – INFORMATION ABOUT THE RESIDUAL DANGERS

The machine presents a situation of residual risk in concomitance and limitedly to the start stage of the mixture working operations because some phenomena deriving from an imperfect assembling of the parts can take place.

CHAP. 10 - STAFF TRAINING

The maintenance and production staff will have to stick to the specific given in the special chapter of this handbook.

The workers will have to know all the contents of his handbook and in particular the residual risks connected, above all, to the necessity of handling some components at the beginning of the production.

CHAP. 11 - DISMANTLING

The structure of the machine is almost exclusively made of metal, therefore it does not present any kind of problem for dismantling, because metal (steel, aluminium, brass) can be recycled .

The electrical motor presents the windings made in brass, material that is perfectly recoverable and recyclable.

The only part that is not recyclable is represented by small plastic pipes.

We can state that almost the whole machine can be easily disposed as metal crap.

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Some refrigerating liquids are present. In this case apply to a refrigeration engineer that will provide for the recovery of the Freon gas.

Some lubricating fluids are present in a tank. Collect the lubricants and deliver them to organizations specialized in the recovery and dismantling.

CHAP. 12 – MANUAL OF THE RECOMMENDED SPARE PARTS

- a) Set of pneumatic gaskets.
- b) Set of mechanical gaskets.
- c) Recommended lubricants.
- d) Recommended lubricating and refrigerating fluids for the refrigeration plant.

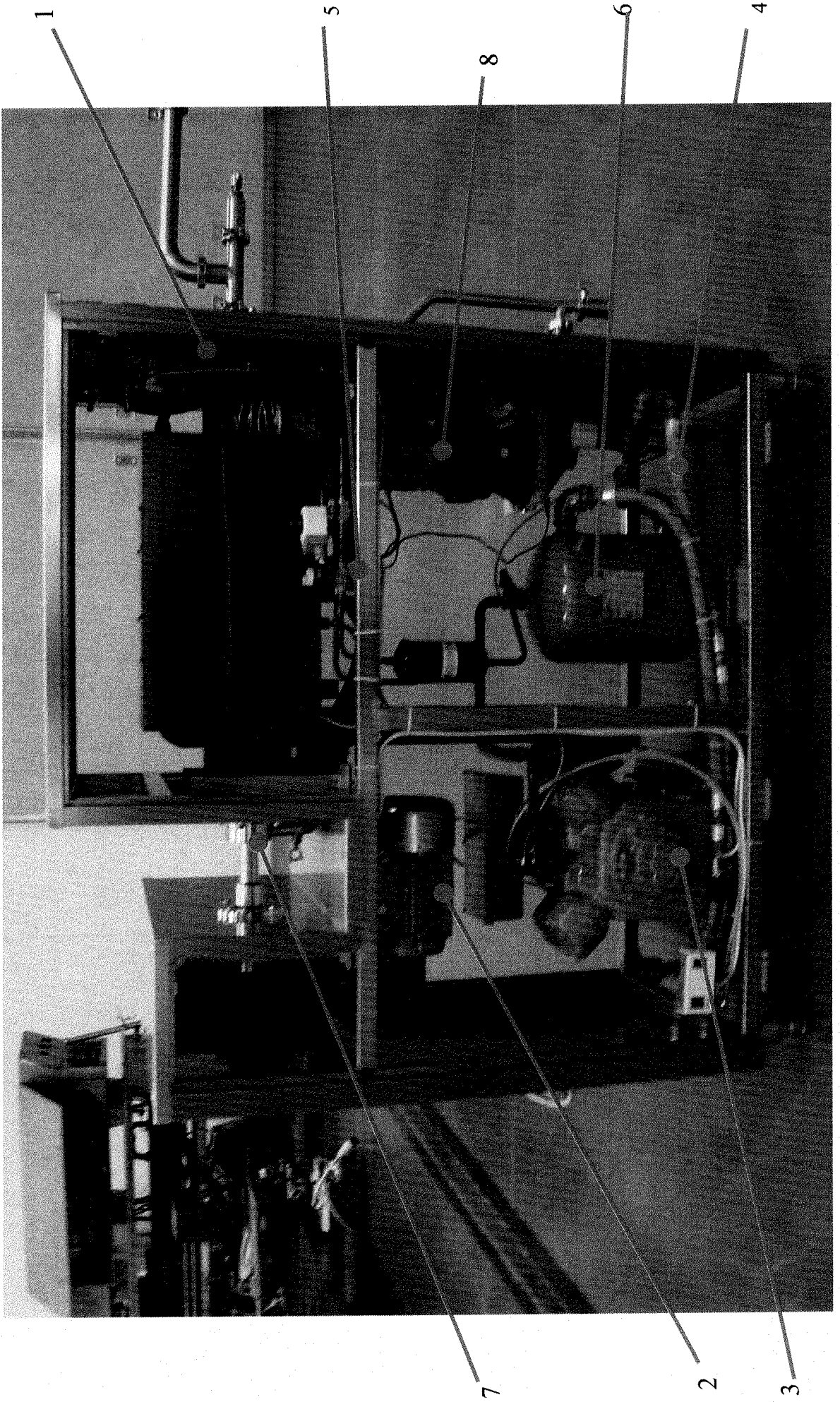
(See enclosed spare part chart).

CHAP. 13 – STORAGE OF THE MACHINE

In case of storage of the machine , it must be kept in a shielded and dry place, so as to protect above all the electrical and electronic equipment mounted inside it.

In the case either a long storage or non-use period of the machine is expected (more than 7 days), it is compulsory to disassemble the pumping pistons inside the compression head, to avoid that they themselves, by staying into static contact with the relative CH gaskets, may get damaged.

FIGURA "A"



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FIGURE A

Position	Description
1	BARREL
2	DASHER ELECTRIC MOTOR
3	COMPRESSOR
4	PRESSURE SWITCH VALVE
5	GAS SOLENOID VALVE
6	CONDENSER
7	REAR BREECH
8	PUMP SPEED VARIATOR

FIGURA "B"

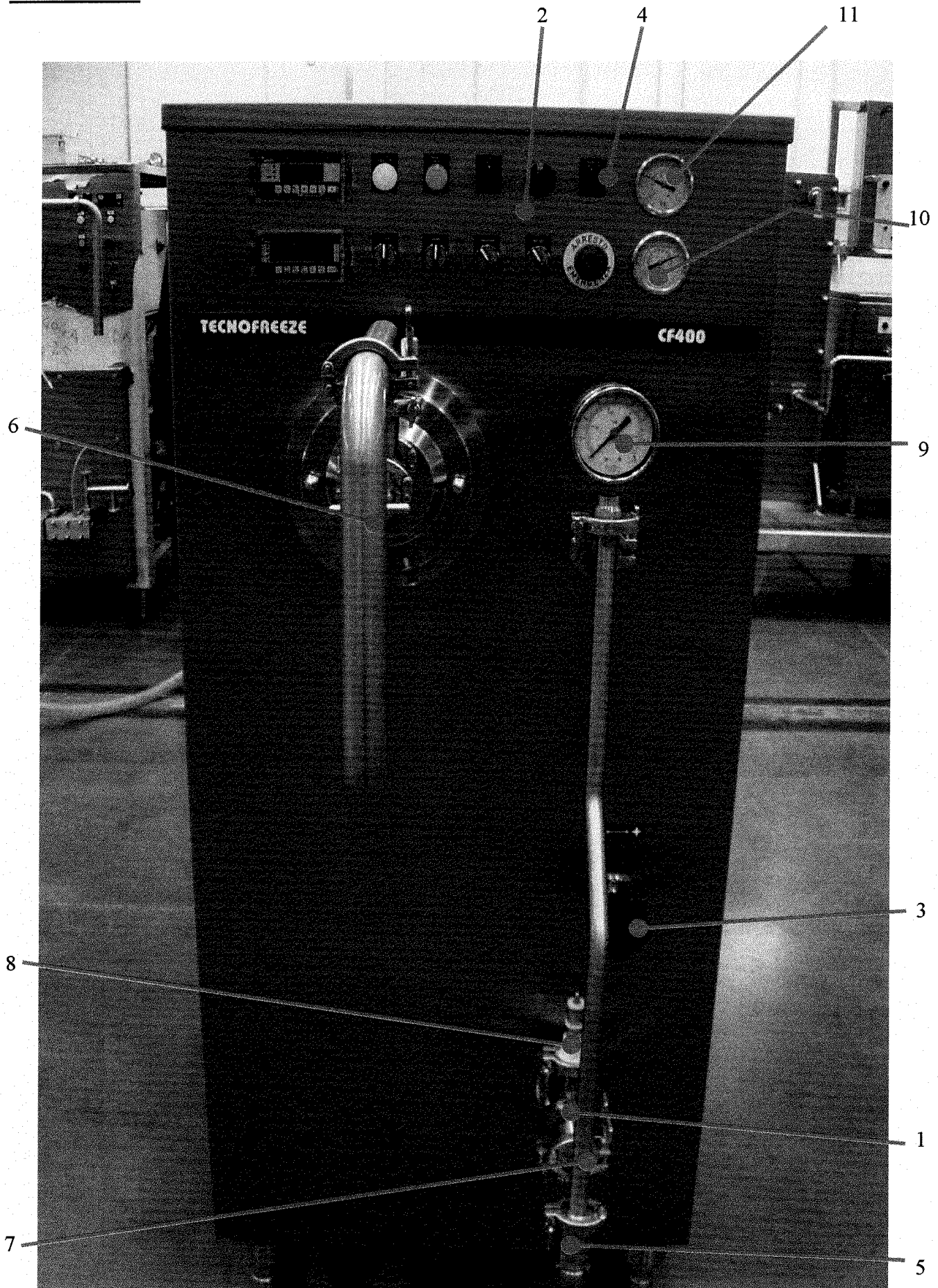
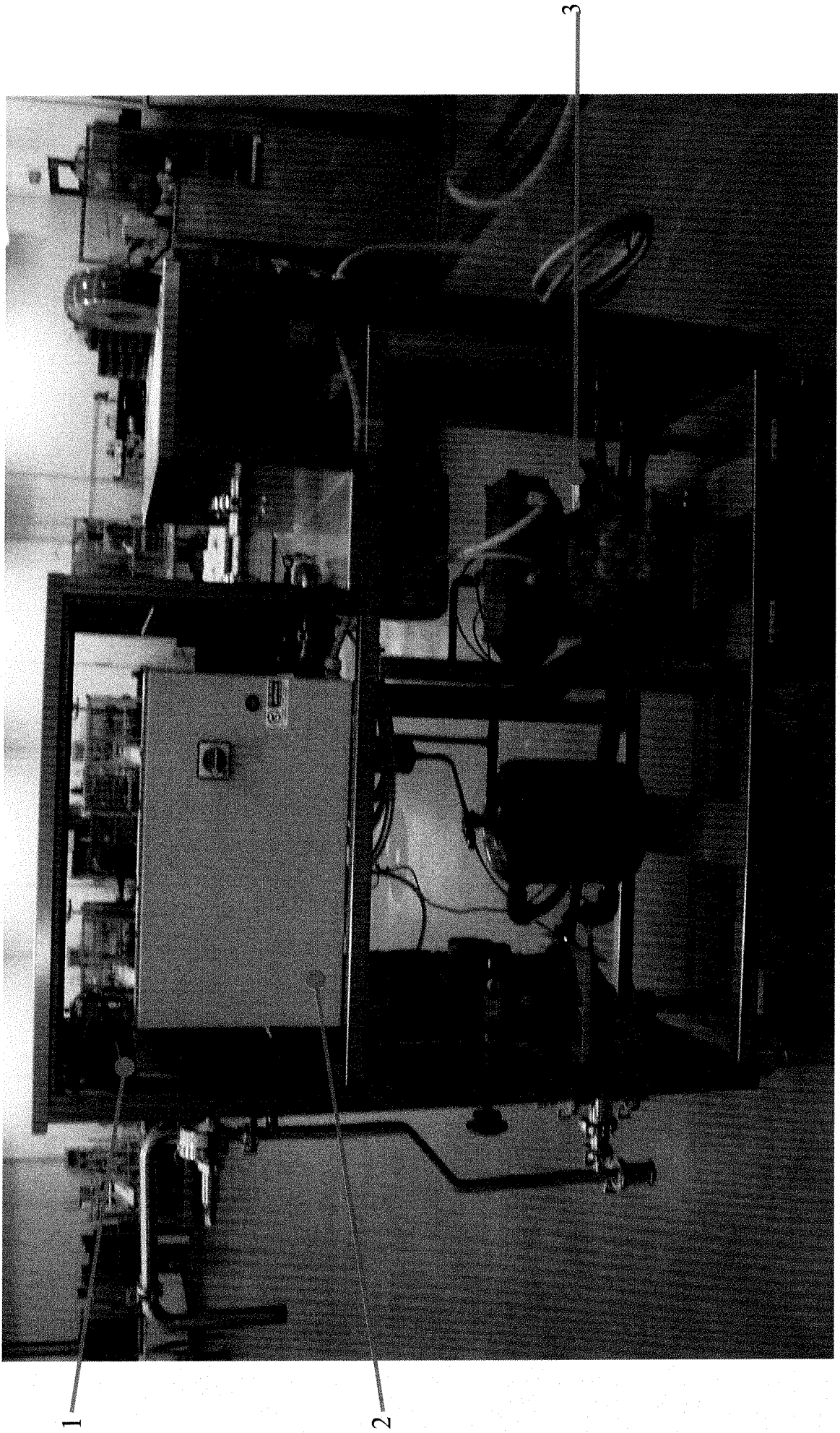


FIGURE B

Position	Description
1	AIR MIXTURE PUMP
2	CONTROL BOARD
3	PUMP SPEED HAND-WHEEL
4	HOT GAS HAND-WHEEL
5	SAFETY VALVE
6	BACK PRESSURE HAND-WHEEL
7	MIXTURE SUCTION
8	AIR VALVE
9	MIXTURE PRESSURE GAUGE
10	SUCTION PRESSURE-VACUUM GAUGE
11	HIGH PRESSURE GAUGE

FIGURA "C"



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FIGURE C

Position	Description
1	CONTROL BOARD
2	ELECTRIC CONTROL BOARD
3	PRESSURE SWITCH

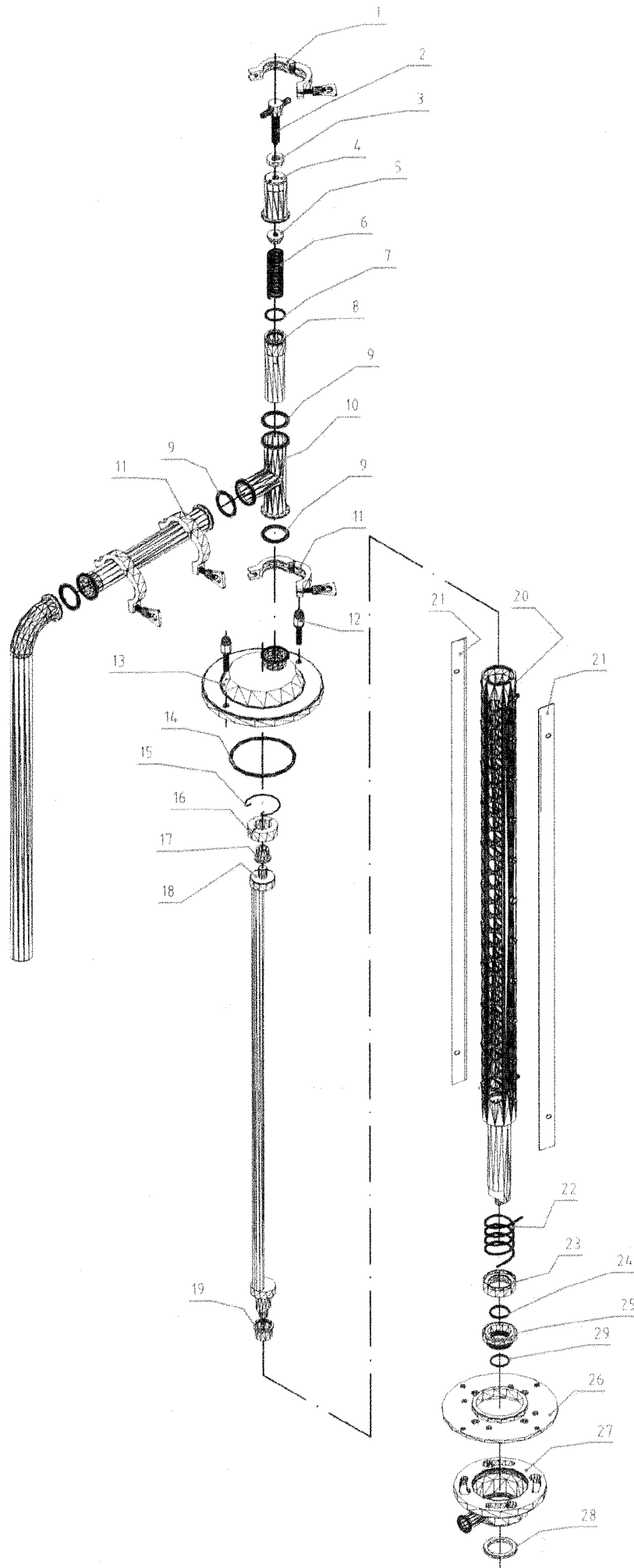
FIGURA "D"



GROUP "MOTOR VARIATOR" FZ 200

POS.	DESCRIPTION	COD.
1)	Motor variator SRF 010/63/1 153-30 Kw 0.75	M0127
2)	Single pump support	A0564
3)	Single pump cam	A0565
4)	Cam pin	A0566
5)	Open connecting rod cover	A0567
6)	Connecting rod wrist pin	A0568
7)	Self lubricating flanged bushing 12 F16 L12	M0352
8)	Bearing 6204 2RSH	M0128
9)	Single pump connecting rod	A0569
10)	Close connecting rod cover	A0570
11)	Self lubricating bushing 12 F16 L15	M0353
12)	Piston Ø 25 x 142	A0622
13)	Seeger 20E	

FIGURA "I"



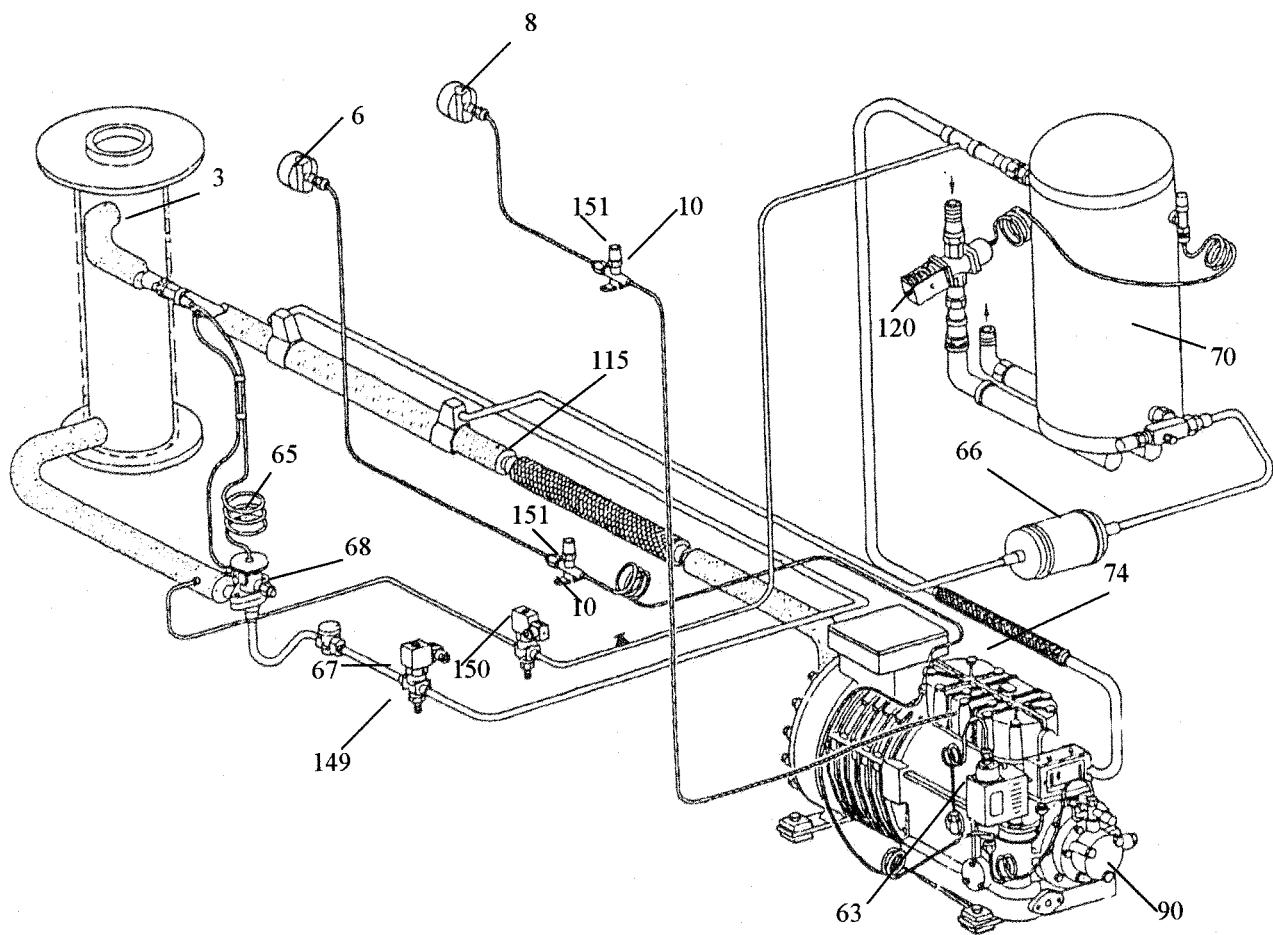
TECNOFREEZE

GROUP "DASHER" – CF 200

Fig. "I"

POS.	DESCRIPTION	COD.
1)	Clamp 1" – 1" ½	
2)	Adjusting screw	A0522
3)	Adjusting counter- nut	A0523
4)	Ice cream outlet valve 1" ½	A0524
5)	Spring pusher Ø 21	A0525
6)	Ice cream outlet valve spring	A0526
7)	Or 4125	A0260
8)	Ice cream outlet piston	A0527
9)	Clamp gasket 1" - 1" ½	
10)	1" – ½" "T" junction	A0528
11)	Clamp 1" – 1" ½	
12)	Cover stop pivot	A0529
13)	Front cover	A0530
14)	Or 6425	M0372
15)	Ring for eccentric shaft support	A0531
16)	Eccentric shaft support	A0532
17)	Rear bearing for eccentric shaft	A0533
18)	Eccentric shaft for dasher L=600	A0534
19)	Front bearing for eccentric shaft	A0535
20)	Drilled dasher L= 600	A0493
21)	Dasher scraper blade	A0537
22)	Dasher spring	A0538
23)	Rotating seal Ø 40	A0539
24)	Or 6162	M0373
25)	Bearing for rear cover	A0469
26)	Rear flange for barrel fixing	A0540
27)	Rear cover	A0541
28)	Ring nut M46 x 1	A0470
29)	OR3200	M0253

FIGURA "L"



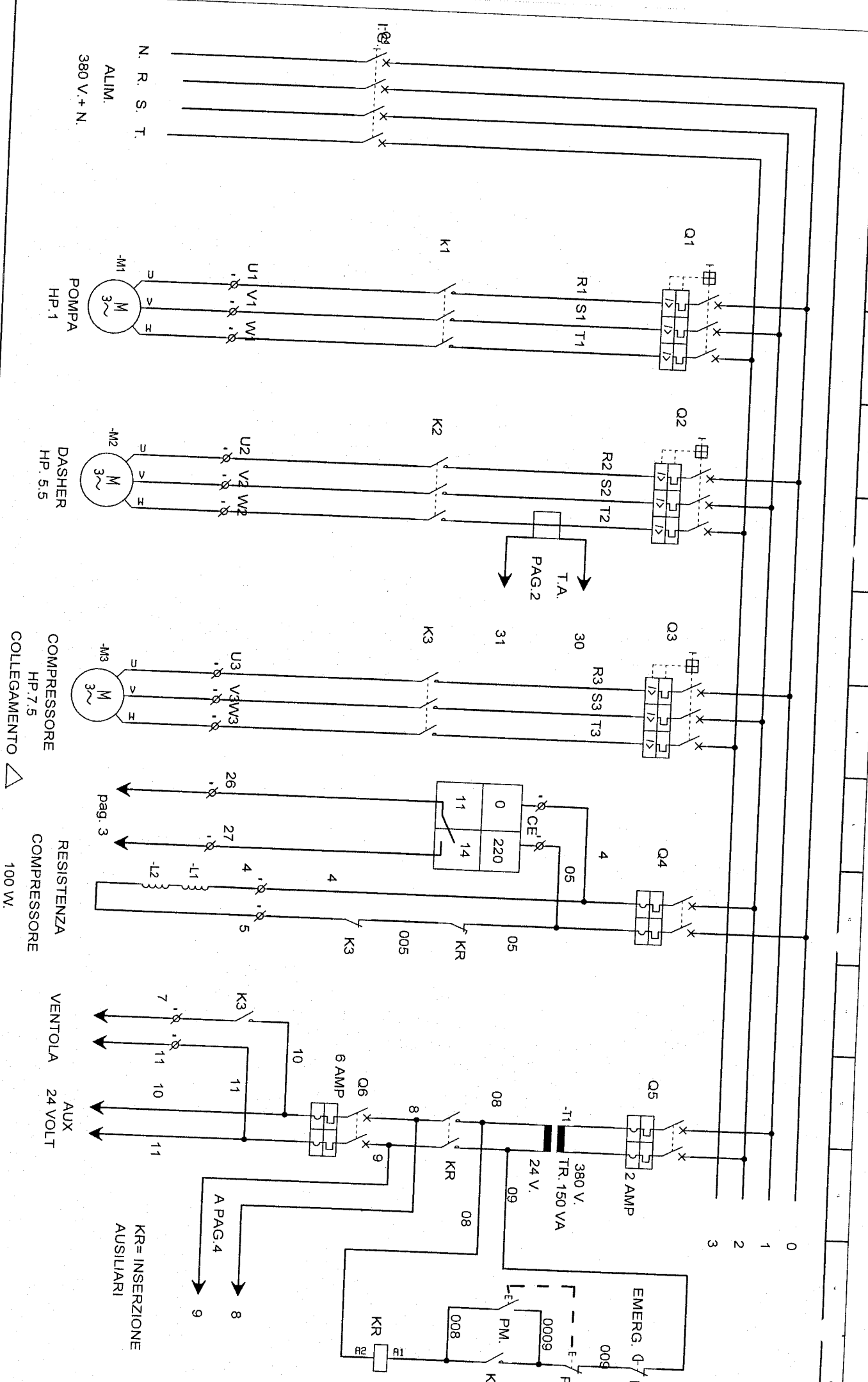
REFRIGERATOR DIAGRAM CF200

FIG. "L"

115)	Vtig DN.22 antivibrating	F0005
74)	Vtig DN.18 antivibrating	F0029
120)	Wvfx 15 Water valve Danfoss 1/2"	F0027
63)	Kp 15 Press.Danfoss 0,2/7+8/32 aut	F0007
60)	Adk 304 S Alco filter	F0009
67)	1068/M 12S Solenoid 12mm ods Castel	F0011
149)	W 24-50/60 Hz Castel reel	F0012
68)	DN.12 ods Humidity indicator	F0014
150)	Evpr 10 Solen.button Danfoss 1/2	F0015
70)	Condensator CE5	F0026
151)	8W 24-50/60 - Evpr- Danfoss reel	F0018
10)	6010/2 Cock 1/4 X 1/4 Sae	F0019
9)	6420/M12 Cock Cappellot.12 ods	F0020
65)	XB 1019 SW40 1B Bellows Alco	F0021
	C 501-7 12X16 Body Alco Tcle	F0022
6)	Low pressure gauge -1+12 Glic/DN.63 1/4 Post	F0023
8)	High pressure gauge -1+35 Glic/DN.63 1/4 Post	F0024
90)	Compressor HP3,5 mod. B-4FC-3.2μ oil charge 040 Synthetic Res. Carter 100W/220V 4Z4N-20	F0002

ELECTRIC DIAGRAM

CF 400

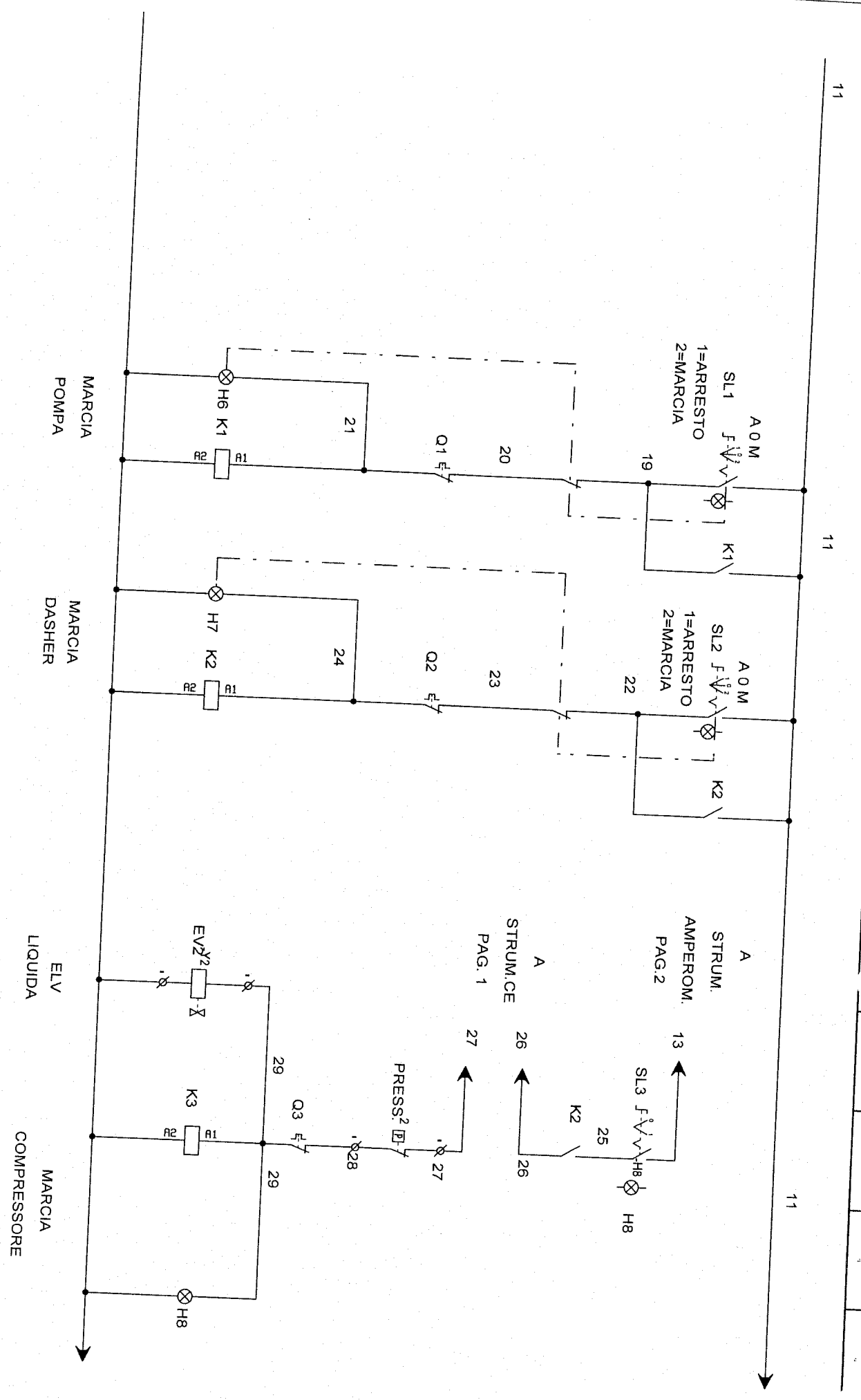


COMPRESSORE HP.7.5 COLLEGAMENTO
 RESISTENZA COMPRESSORE 100 W.

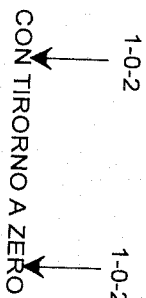
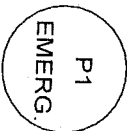
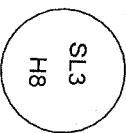
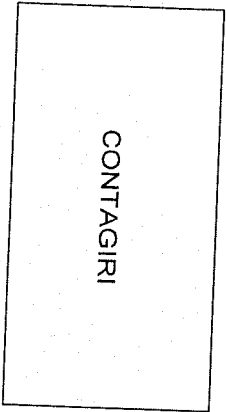
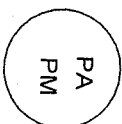
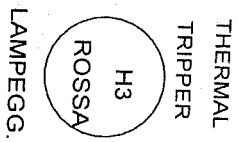
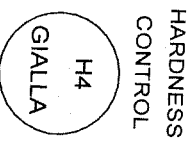
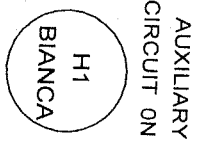
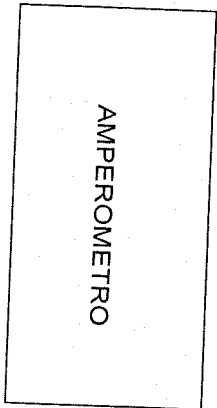
POMPA HP.1
 DASHER HP.5.5

AUX. 24 VOLT
 VENTOLA

KR = INSERZIONE AUSILIARI



FRONTALE PULSANTIERA CF 400



1-0-2

0-1

0-1

CF 400

mm.0

PANNELLO CF 400

MM.0

CANALINA 25 X 80 MM. 470

MM. 110
BARRA OMEGA
LUNG. 460 MM

MM 200

MM 280
BARRA OMEGA
MM 220

CANALINA 25 X 80 LUNGH.MM 150

Q4 GB2CD07 1 A.
Q5 GB2CD09 4 A.
Q6 GB2CD12 8 A.

Q1 GV2ME07 1,6-2,5 A.
+ GV2AE11

Q2 GV2ME14 6-10 A.
+ GV2AE11

Q3 GV2ME21 18-23 A.
+ GV2AE11

K1 LC1D09B7

K2 LC1D12B7 + LADN11

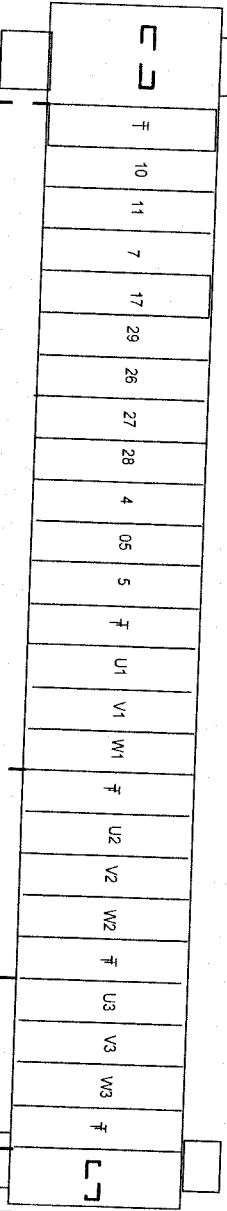
K3 LC1D25B7

I.G. NEUTRO VZ 11 3X40 A +

NEUTRO VZ 11 T.A. 25/5

CANALINA 25 X 80 MM. 500

CANALINA 25 X 80 MM. 310



TRASF. 150 W. 380/24 V.

KR LC1K06

STRUMENTO OV2-B

MM.280
BARRA
MM 100

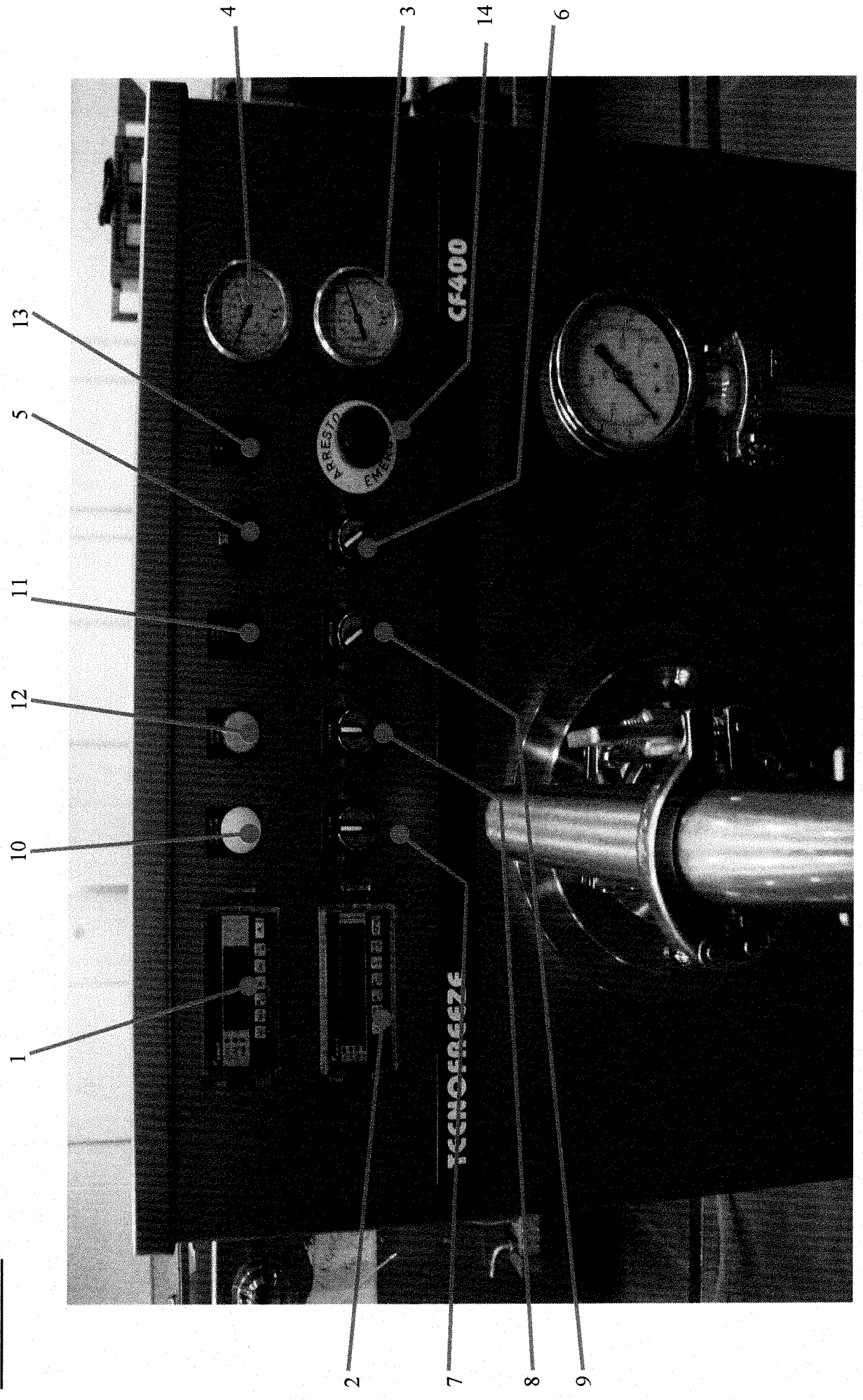
CF 400

FOGLIO 06 CF 400

FIGURE D

Position	Description
1	WATER INLET
2	WATER OUTLET
3	COOLING FAN
4	CE PLATE

FIGURA "E"

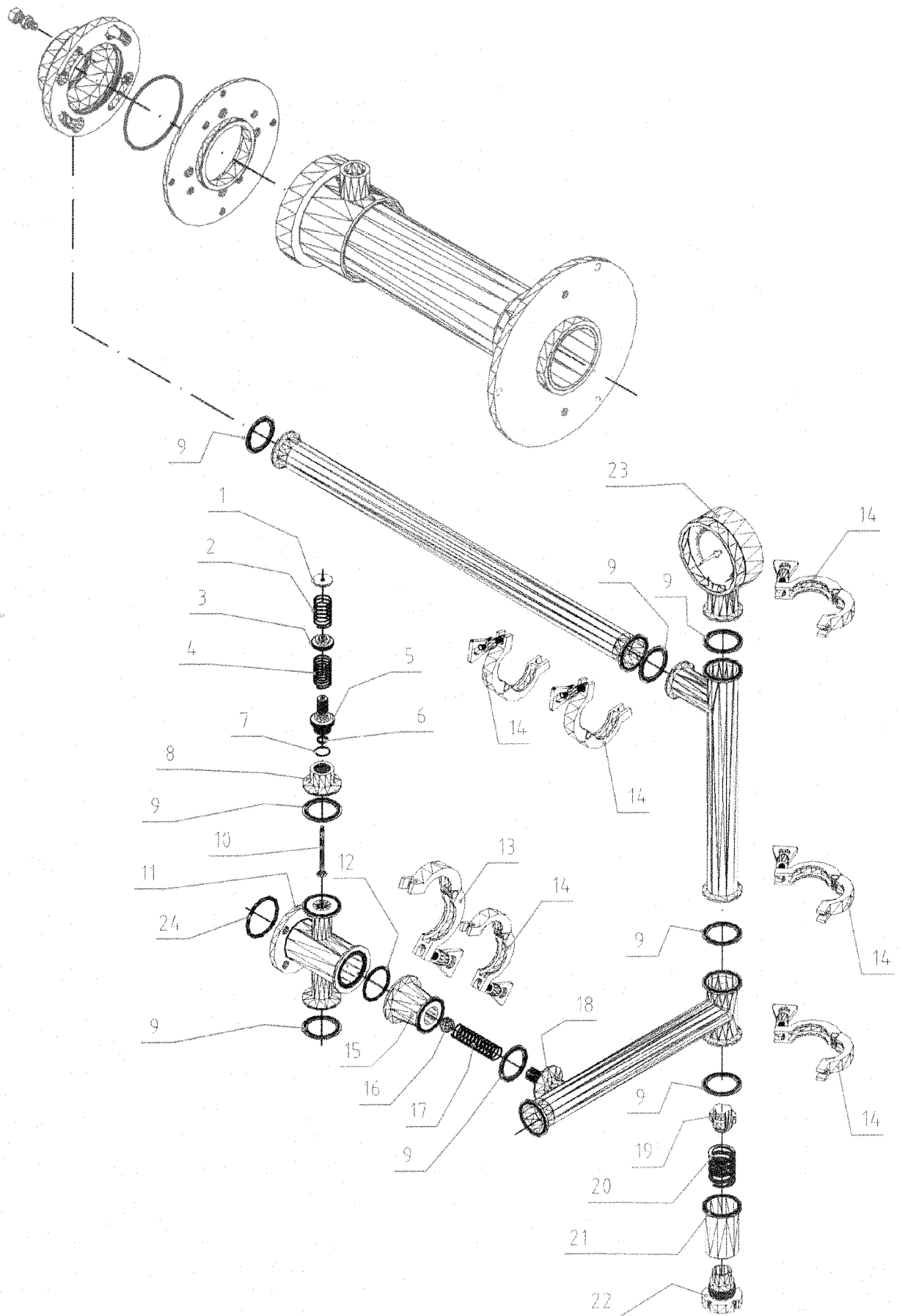


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FIGURE E

Position	Description
1	AMMETER
2	PUMP SPEED VIEWER
3	CONDENSATION PRESSURE GAUGE
4	EXPANSION PRESSURE GAUGE
5	HOT GAS POWER GAUGE
6	HOT GAS SWITCH
7	PUMP PUSH BUTTON START
8	DASHER PUSH BUTTON START
9	COMPRESSOR PUSH BUTTON START
10	SYSTEM WARNING LIGHT
11	THERMIC SWITCH WARNING LIGHT
12	HARDNESS CONTROL PILOT LAMP
13	EMERGENCY PILOT LAMP
14	EMERGENCY

FIGURA "F"

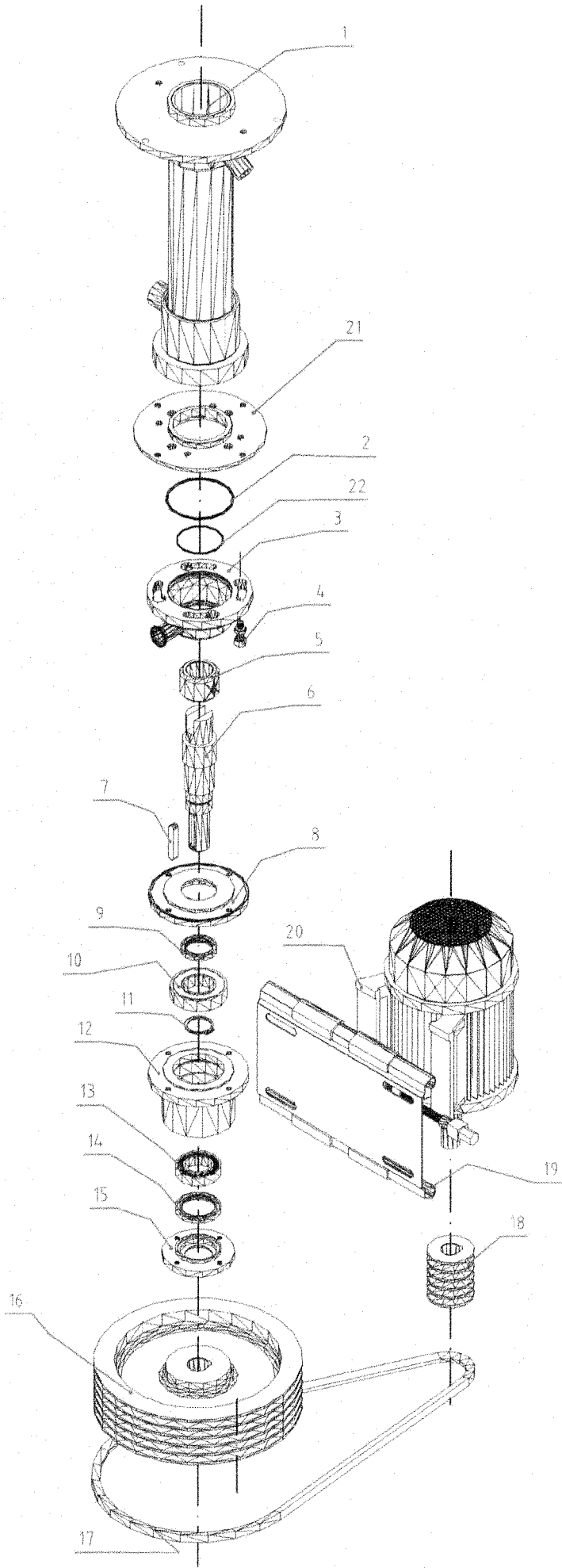


GROUP "PUMP" FZ200

FIG "F"

POS.	DESCRIPTION	COD.
1)	Spring slide cover	A0550
2)	Outer spring for air valve	A0551
3)	Adjustment nut	A0552
4)	Inner spring for air valve	A0553
5)	Fixed body	A0554
6)	Or 112	M0255
7)	Or 3068	M0367
8)	Fixed body ring nut	A0555
9)	Clamp gasket 1" ½	M0032
10)	Stem Ø 5,8	A0556
11)	Pump body Ø 25 with clamp connections	A0620
12)	Or 4100	M0370
13)	Clamp 2"	
14)	Clamp 1" – ½"	
15)	Check valve body	A0557
16)	Stainless steel ball Ø 19 mm	M0351
17)	Check valve spring	A0558
18)	Check valve spring holder	A0559
19)	Shutter	A0560
20)	Safety valve spring	A0561
21)	Safety valve body	A0562
22)	Safety valve plug	A0563
23)	Pressure gauge	M0084
24)	OR 4112	M0371

FIGURA "G"



TECNOFREEZE

GROUP "HAULAGE" CF 200

Fig. "G"

POS.	DESCRIPTION	COD.
1)	Refrigerator barrel L=600	A0491
2)	Or 4337	M0374
3)	Rear cover	A0541
4)	Lock peg CH 17	A0544
5)	Shaft safety bushing	A0545
6)	Shaft	A0546
7)	Split pin 10 x 8 L 60	
8)	Front shaft cover	A0547
9)	Gas ring BAUD 25L 40-55-7	M0125
10)	Bearing 6209	M0123
11)	Seeger 40E	
12)	Shaft bush morse	A0548
13)	Bearing 6800M0122	M0122
14)	Gas ring NAK- SC 52-58-8	
15)	Rear shaft cover	A0585
16)	Pulley PT A 300 x 5 D = 32	A0548
17)	Belt A52	M0121
18)	Pulley PT A 63 x 5 D = 28	A0549
19)	Slide tc 112 Junior (siti)	M0118
20)	Electric motor : Hp3 Kw2,2 4P	
21)	OR 4375	M0153

FIGURA "H"

