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SPA / AZZANO S. PAOLO (BG)

600/2 CONTINUOUS FREEZER

FIRST OF ALL WE WOULD LIKE TO THANK YOU FOR HAVING CHOSEN OUR MACHINES. PLEASE, CAREFULLY READ THE INSTRUCTION OF THIS MANUAL.

BY FULFILLING AND APPLYING THESE INSTRUCTIONS YOU WILL INCREASE THE WORK LIFE OF YOUR MACHINE.

ON OUR PART WE GUARANTEE YOU THAT THE MACHINES ARE BUILT WITH THE BEST MATERIALS AVAILABLE ON THE MARKET AND THAT ONLY THE MOST ADVANCED TECHNOLOGY HAS BEEN EMPLOYED.

TECHNOGEL SpA.

THE FREEZER IS COMPOSED OF A STEEL STRUCTURE COVERED BY REMOVABLE PANELS CONSENTING EASY INSPECTION AND MAINTENANCE OPERATIONS.

ON THE FRONTAL PART OF THE FREEZER THERE ARE INSTALLED:

- 2 FREEZING CYLINDERS (FIG. 3)
- PUMP SPEED REGULATION HANDWHEEL (4 FIG. 3)
- 2 VACUUM METERS CONNECTED TO THE SUCTION OF THE REFRIGERATING SYSTEM (25-27 FIG. 2)
- 2 VACUUM METERS CONNECTED TO THE COMPRESSION OF THE REFRIGERATING SYSTEM (24-26 FIG. 2)

THE UPPER PART OF THE MACHINES HOSTS THE CONTROL BOARD CONTAINING:

- 2 ELECTRONIC AMMETER RELAYS (1-2 FIG. 1)
- ELECTRIC SWITCHES (3-4-5-6-7 FIG. 1) CONTROLLING: COMPRESSOR MOTORS, BEATER MOTORS, PUMP MOTOR VARIATOR AND RELATED FUNCTIONING SPY LIGHTS.
- SWITCH (8-9 FIG.) CONTROLLING THE QUICK HOT GAS DEFROSTING SOLENOID VALVE, WITH CORRESPONDING SPY LIGHT.
- SPY LIGHTS (17-18-19-20-21 FIG. 1) FOR MOTOR'S STOP.
- SPY LIGHT (22 FIG. 1) INDICATING CURRENT FEED TO THE MACHINE
- RED PUSHBUTTON (23 FIG. 1) FOR MACHINE EMERGENCY STOP.

WE SPECIFY THAT THE PRODUCTION OF 600 LTS/HR FOR THE FREEZER 600 IS REFERRED TO AN ICE CREAM HAVING A VOLUME INCREASE OF 100% AND A TEMPERATURE OF ABOUT -6°C.

THE TEMPERATURE OF THE MIXTURE AT THE PUMP INLET MUST BE OF +4/5°C.

THE COMPOSITION OF THE ICE CREAM MIXTURE IS THE FOLLOWING:

- 15.5% (SUGAR)
- 8-12% (FAT)
- 9-11% (LEAN MILK PRODUCTS)
- 0.5% (STABILIZERS/ EMULSIFIERS)

WITH A SOLID CONTENTS OF 38%.

THE PERFORMANCE OF THE MACHINE IS SUBORDINATE TO THE CONDITIONS OF USE RELATED TO THE CONDENSATION OF THE REFRIGERATING SYSTEM.

THE CONDENSATION TEMPERATURE MUST BE MAINTAINED BETWEEN 30° AND 35°C (SCALE R 502).

THE MAXIMUM OPERATIONAL TEMPERATURE ALLOWED IS 45°C (15 BAR) ABOVE WHICH THE PERFORMANCE OF THE MACHINE SUDDENLY DROPS THUS COMPROMISING THE VARIOUS COMPONENTS OF THE REFRIGERATING SYSTEM.

IN THIS CASE, THE MAKER IS NOT RESPONSIBLE FOR ANY DAMAGES CAUSED TO THE MACHINE.

IF THE WATER USED FOR COOLING THE CONDENSERS COMES FROM THE EVAPORATION COLUMNS, THE TEMPERATURE OF THE SAME SHALL NEVER EXCEED +29°C.

IF THE TEMPERATURE OF THE INLET WATER EXCEED +29°C, THE WATER CONSUMPTION WILL REMARKABLY INCREASE AND THE PERFORMANCE OF THE MACHINE WILL DECREASE.

IN THIS INSTANCES, THE PRESSURE RELIEF VALVE MUST BE COMPLETELY OPEN OR, IF NECESSARY, REMOVED.

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TECHNICAL DATA

	CONTINUOUS FREEZER 600/ 2	
	1st CYLINDER	2nd CYLINDER
BEATER MOTORS	4 HP	8 HP
PUMP MOTOR VARIATOR	1.5 HP	
COMPRESSOR MOTORS	7.5 HP	7.5 HP
TOTAL ELECTRIC POWER	21 KW	
FRIGORIFIC FLUID	FREON R 502	
FRIGORIFIC LIQUID LOAD	7.5 KG	7.5 KG
TOWER WATER CONSUMPTION AT +29°C	5000 LT/H	
WELL WATER CONSUMPTION AT +15°C	1200 LT/H	

FOR REFRIGERATING COMPRESSORS USE MINERAL OIL TYPE SUNISO-4G

FOR VARIATORS USE GREASE TYPE ENERGOL SHF 68-BP

INSTALLATION AND CONNECTIONS

INSTALL THE MACHINE IN THE SELECTED LOCATION AND ADJUST THE FEET SO AS TO GIVE THE MACHINE A SLIGHT FORWARD INCLINATION.

ELECTRIC CONNECTION

THE MACHINE IS PRESET FOR 220 AND 380 V. FUNCTIONING.

THE TOTAL INPUT IS 21 KW :

415 V	39 A
380 V	47 A
220 V	70 A

ACCORDING TO THE VOLTAGE, AND FROM THE ABOVE DATA, PLEASE OBTAIN THE MAGNETIC THERMAL VALUE TO BE INSTALLED BETWEEN THE MACHINE AND THE ELECTRIC SOURCE.

THE MAGNETIC-THERMAL SYSTEM SHALL BE PRESET FOR THE CONNECTION TO A THREE-PHASE + GROUND CABLE.

WATER CONNECTION

CONNECT THE WATER INLET AS INDICATED ON THE PLAQUES (INLET) ON THE REAR PART OF THE MACHINE.

DO THE SAME WITH THE WATER OUTLET.

THE DIAMETER OF PIPINGS SHALL NOT BE INFERIOR TO THE DIAMETER OF THE ONES OF THE MACHINE AND PIPINGS SHALL BE FREE FROM ANY OBSTRUCTION.

THE MORE SUITABLE MAXIMUM LENGHT BETWEEN THE MACHINE AND THE MAIN LINE IS 3/4 METERS.

IF, FOR ANY REASON, THE INLETS ARE NOT IDENTIFIED BY ANY PLAQUES, THE INSTALLER SHALL CONNECT THE INLET PIPE ON THE PRESSURE RELIEF VALVE (14 FIG. 4).

VERIFICATION BEFORE STARTING

BEFORE COMMENCING PRODUCTION, CLEAN AND CAREFULLY DISINFECT THE MACHINE.

FEED CURRENT TO THE MACHINE BY MEANS OF THE MAIN SWITCH 5/6 HOURS BEFORE STARTING THE COMPRESSOR.

THE RESISTANCE LOCATED IN THE ENBLOC OF THE COMPRESSORS SLOWLY HEATS THE OIL WHICH EXPELS THE GAS POSSIBLY PRESENT. ON THE FRONT OF THE MACHINE THERE ARE MOUNTED FOUR MANOMETERS FOR THE FRIGORIFIC FLUID, TWO ON THE SUCTION AND TWO ON THE COMPRESSION.

BEFORE STARTING THE MACHINE, PLEASE CHECK THAT THE MANOMETERS ARE MATCHED AT A PRESSURE VALUE BETWEEN 6 AND 9 BAR.

IF THE MANOMETERS ARE MATCHED AT A PRESSURE OF 2/3 BAR, DON'T START THE MACHINE BECAUSE THE PROBABLE LACK OF GAS COULD DAMAGE THE MACHINE.

ALWAYS CONSULT WITH A COMPANY'S AUTHORIZED TECHNICIAN.

VERIFICATION OF SENSE OF ROTATION

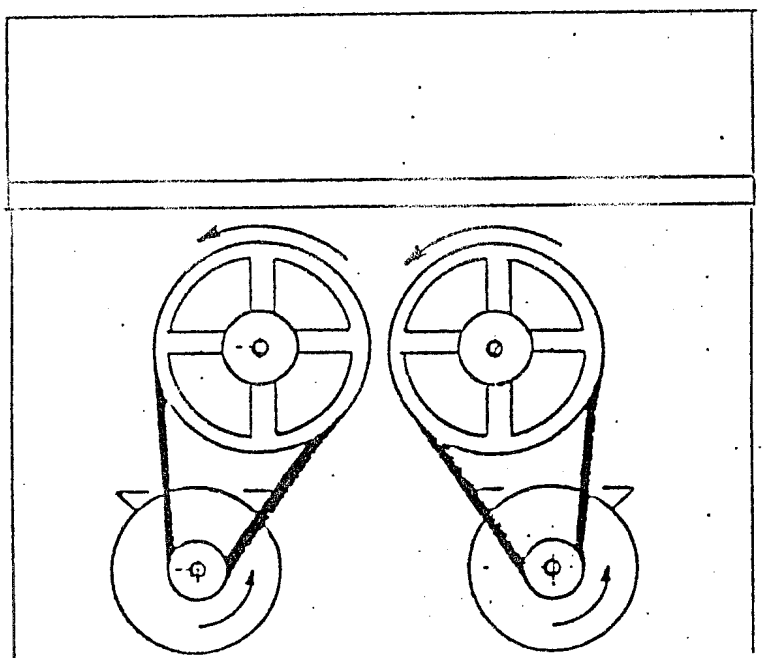
IT IS VERY IMPORTANT TO CHECK THE SENSE OF ROTATION OF THE BEATER WHICH IS LOCATED INSIDE THE FREEZER.

FOR THE VERIFICATION OF THE SENSE OF ROTATION FOLLOW THESE STEPS:

- UNSCREW THE THREE HANDWHEELS OF THE FLANGE AND REMOVE THE FLANGE
- EXTRACT THE BEATER
- TEMPORARILY THE BEATER'S MOTOR BY MEANS OF THE SWITCH (3-4 FIG.1)

THE SENSE OF ROTATION MUST BE COUNTERCLOCKWISE LOOKING AT THE

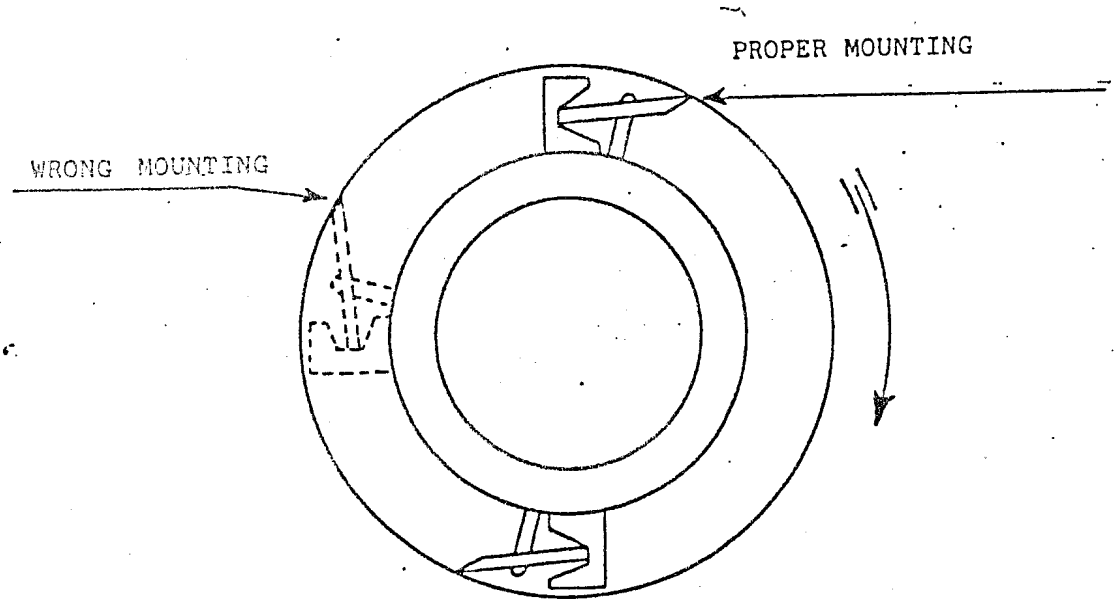
MACHINE FROM THE REAR. (SEE THE HEREUNDER DRAWING)
BY CLOCKWISE ROTATION IT IS NECESSARY TO ANY ONE OF THE THREE
AND CHECK ONCE MORE.



PROPER ASSEMBLY OF THE TURBINE

ASSEMBLY OF THE TURBINE IS TO BE EFFECTED WITH THE UTMOST CARE AND CHECKING THE SCRAPER KNIVES ONE BY ONE BECAUSE THEIR EDGES MUST BE FAULTLESS.

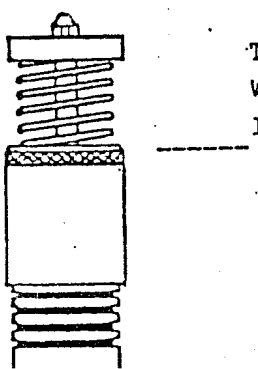
THE SCRAPING BLADES MUST BE MOUNTED AS SHOWN IN THE FIGURE BELOW, INSERTING THEM, ONE BY ONE , IN THEIR SEATS.



STARTING

OPEN THE PRESSURE REGULATOR TAP (2 FIG. 3).BY MEANS OF THE HAND-WHEEL (4 FIG. 3) ADJUST THE PUMP REVOLUTIONS TO THE MINIMUM VALUE (0.5 INDICATIVELY), THE REVOLUTIONS MAY BE EASILY CHECKED ON THE REVOLUTION COUNTER (14 FIG. 3) AND CLOSE THE AIR VALVE (FIGURE BELOW) UNTIL ALL BLACK BARS ARE UNCOVERED.

THEN OPERATE THE PUMP SWITCH (7 FIG. 1).



THE AIR VALVE IS CLOSED WHEN THE KNURLED RING IS IN THIS POSITION

WHEN THE ICE CREAM MIXTURE BEGINS TO COME OUT FROM THE ICE CREAM PIPE, STOP THE PUMP AND TURN ON THE SWITCH OF THE BEATER'S MOTORS (3-4 FIG. 1) AND THE SWITCHES OF THE FREEZING COMPRESSOR (5-6 FIG. 1).

AFTER HAVING CARRIED OUT THE ABOVE MENTIONED OPERATIONS, THE MIXTURE BEGINS TO HARDEN INTO THE CYLINDERS AND THE HARDNESS TEST IS MADE BY MEANS OF THE AMMETER RELAYS (1-2 FIG. 1) AS THE MOTOR'S EFFORT IS DIRECTLY PROPORTIONAL TO THE HARDNESS OF THE MIXTURE.

WHEN THE MIXTURE HAS REACHED MEDIUM HARDNESS (INDICATIVELY 4 A FOR THE FIRST CYLINDER AND 9 A FOR THE SECOND CYLINDER) START THE PUMPS AND CLOSE THE PRESSURE REGULATOR TAP (2 FIG. 3).

IN ORDER TO REGULATE AND CHECK THE AIR TO BE INTRODUCED IN THE PRODUCT THE MACHINE IS COMPLETE WITH A SPECIAL VALVE (6 FIG. 3) AND A MANOMETER (5 FIG. 3) SHOWING THE INTRODUCED AIR QUANTITY.

BY TURNING CLOCKWISE THE AIR REGULATION SCREW (SEE PREVIOUS FIGURE) THE AIR/LIQUID MIX RATIO VARIES (INCREASE).

TO BE MORE PRECISE THE QUANTITY OF AIR TO BE INTRODUCED IS PROPORTIONAL TO THE BARED BARS (SEE PREVIOUS FIGURE). AFTER A FEW MINUTES THE PRODUCT BEGINS TO COME OUT OF THE FREEZER, THUS DETERMINE WHETHER THE VOLUME INCREASE CORRESPONDS TO DESIRED PRODUCTION VALUE.

KEEP IN MIND THE NUMBER OF BARED BARS TO GET SPEEDY THE FURTHER REGULATIONS.

AFTER EACH AIR REGULATION WAIT FOR A FEW MINUTES SO AS TO ALLOW THAT THE ENTIRE PRODUCT TO ADJUST TO THE NEW CONDITION.

- THE MANOMETER (5 FIG. 3) WILL SHOW QUITE INDICATIVE VALUES WHICH VARY ACCORDING TO THE MIXTURE.
- THE NO-RETURN VALVE (18 FIG. 3) AVOID THE RETURN OF MIXTURE TO DELIVERY PHASE.
- PERIODICALLY CHECK THE O'RINGS CONSUMPTION.

ELECTRONIC AMMETER RELAY

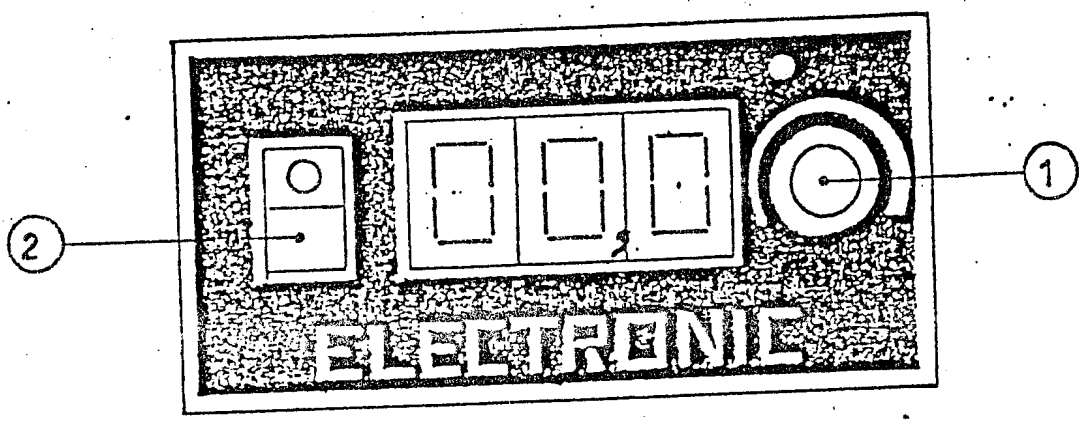
THIS INSTRUMENT WITH LIGHT DISPLAYS IS A VISUAL INDICATOR WHICH ALLOWS THE VERIFICATION OF THE CONSISTENCY OF THE ICE CREAM.
AT THE SAME TIME, AND IF BECAUSE OF DIFFERENT REASON, THE VALUE PRESET IS EXCEEDED, THE INSTRUMENT STOPS THE REFRGIGERATING COMPRESSOR FOR A FEW SECONDS, THUS PROTECTING THE MACHINE AGAINST OVERLOADS WHICH COULD DAMAGE IT.
THIS INSTRUMENT ACTS ON THE STRESS OF THE MOTOR KNEADING THE ICE CREAM AND REPRODUCES ON THE DISPLAY A VALUE REFERRED TO THE AMPERES ABSORBED BY THE MOTOR.
THE NUMBERS INDICATE : 1st right = TENTHS OF AMPERE
2nd center= UNIT INDICATION
3rd left = TENS OF UNIT

EXAMPLE: WHEN THE INSTRUMENT INDICATES 075, IT MEANS THAT THE ABSORPTION IS 7.5 A.

IN ORDER TO ADJUST THE INSTRUMENT, PUSH THE BUTTON 2 (SEE FIGURE BELOW) AND ROTATE THE KNOB 1 CLOCKWISE OR COUNTERCLOCKWISE ACCORDING TO THE VALUE TO BE SET, A VALUE WHICH WILL APPEAR ON THE DISPLAY OF THE INSTRUMENT. WHILE ADJUSTMENT OF THE INSTRUMENT IS EFFECTED, KEEP THE BUTTON 2 PRESSED.
IN ORDER TO REACH THE INSTRUMENT REMOVE THE SIDE PANELS OF THE MACHINE AND REMOVE THE ELECTRONIC BOARD BY UNSCREWING THE TWO WINGS NUTS.
WHEN SETTING OF AMMETER RELAY IS TOO HIGH, THE ICE CREAM TENDS TO HARDEN EXCESSIVELY, CONSEQUENTLY ENDANGERING THE BEATER'S MOTOR. IN THIS LATTER CASE THE OVERLOAD CUTOUT OPERATES AND, DISCONNECTING, STOPS THE BEATER'S MOTOR, LOCATED IN THE ELECTRIC PANEL INTO THE MACHINE, ON THE RIGHT SIDE.

WARNING: BEFORE OPENING THE ELECTRIC BOARD DISCONNECT THE CURRETN FEED.

NOW SET THE AMMETER RELAY TO THE LOWER VALUE.



	1° CILNDRO	2° CILINDRO
V. 220	da 10 a 12	da 21 a 23
V. 380	da 6 a 8	da 10 a 13
V. 415	da 5 a 7	da 10 a 12

THE VALUES ABOVE ARE ONLY INDICATIVE AND THEY CAN VARY ACCORDING TO THE ICE CREAM MIXES TO OBTAIN.

CYLINDER PRESSURE CONTROL

THE FREEZER 600/2 IS EQUIPPED WITH A MANOMETER (9 FIG. 3) FROM 0 TO 25 KG/CUBIC CM, WHICH INDICATES THE PRESSURE INSIDE THE CYLINDERS.
IN GENERAL, THE IDEAL PRODUCTION PRESSURE MUST BE COMPREHENDED BETWEEN A MINIMUM OF 6 BAR AND A MAXIMUM OF 13 BAR.
SHOULD THE PRESSURE DIMINISH, CAUSING PROBLEMS FOR THE PRODUCTION, VERIFY THE FOLLOWING:

- THE PUMPSSPEED MUST NOT BE TOO HIGH
- SOME DEFECTS IN THE REFRIGERATING SYSTEM MAY DIMINISH THE POWER OF THE PUMP SO THAT THE ICE CREAM WILL COME OUT SOFT EVENTHOUGH THE REVOLUTIONS OF THE PUMP HAVE BEEN REDUCED.

THE FIRST CONDITION MAY BE IMMEDIATELY CORRECTED BY THE OPERATOR, WHILE THE REFRIGERATING SYSTEM MUST BE CHECKED BY A SPECIALIZED TECHNICIAN.
IF THE PRESSURE IN THE CYCLINDER EXCEEDS 13 BAR, PROCEED AS FOLLOWS:

- MAKE SURE THAT THE RUBBER HOSE CONNECTED TO THE ICE CREAM OUTLET IS NOT OBSTRUCTED AND DOES NOT EXCEED A 5 METER LENGHT.
- OPEN THE ADJUSTMENT SCREW (2 FIG. 3)
- INCREASE THE REVOLUTIONS OF THE PUMPS.
- USE HOT GAS.

OUR MACHINES ARE EQUIPPED WITH SPECIAL SAFETY VALVES WHICH OPERATE AFTER THE PRESSURE INSIDE THE CYLINDERS HAS EXCEEDED 13 BAR.

VERIFICATION OF THE CHECK VALVE

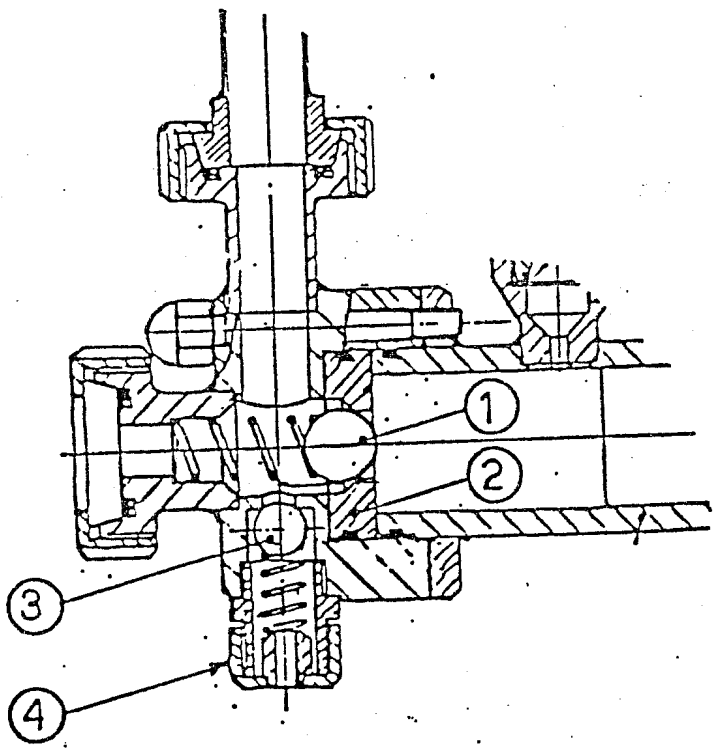
SHOULD THE PUMP BECOME INCAPABLE TO GUARANTEE A REGULAR FLOW OF MIXTURE TO THE CYLINDER, VERIFY THE CHECK BALL (1).

MOST PROBABLY THE SEAL IS DEFECTIVE.

REMOVE THE SEALING DISK (2) AND VERIFY THE CONDITIONS OF THE BALL'S SEAT. IF, INSTEAD, THE BALL HAS BEEN DAMAGED, REPLACE IT WITH A BRAND NEW ONE.

VERIFICATION OF THE SAFETY VALVE

SHOULD THE SAFETY VALVE LEAK EXCESSIVELY AT, SAY ONLY 2 BAR, COMPLETELY UNSCREW THE KNURLED RING (4) AND CHECK WHETHER THE BALL (3) IS DIRTY OR DAMAGED; IF SO, REPLACE IT WITH A BRAND NEW ONE OF THE SAME TYPE.



USE OF HOT GAS

THIS OPERATION IS NECESSARY FOR CONTROLLING THE HARDNESS OF THE ICE CREAM, PARTICULARLY WHEN ENVISAGING A PRODUCTION SLOWER THAN THE STANDARD PRODUCTION OF THE MACHINE.

PROCEED AS FOLLOWS:

- START THE PUMPS SETTING THEM FOR DESIRED PRODUCTION.
- OPERATE THE HOT GAS SWITCH (5 FIG.1)
- SLOWLY OPEN THE SHUTTER (3 FIG. 3) UNTIL OBTAINING THE HARDNESS DESIRED (SEE THE NUMBER OF BLACK BARS UNCOVERED).

THE HOT GAS SYSTEM IS ALSO USED IN CASES OF EMERGENCY WHEN, FOR EXAMPLE, THE ELECTRIC POWER TO THE MIXTURE PUMP HAS BEEN DISCONTINUED. IN SUCH CASES IT IS NECESSARY TO IMMEDIATELY STOP THE BEATER AND THE REFRIGERATING COMPRESSOR AND THEN DO AS FOLLOWS:

- OPERATE THE HOT GAS SWITCH (9 FIG. 1)
- ENTIRELY OPEN THE SHUTTER (3 FIG.3)
- WAIT FOR A FEW MINUTES SO AS TO LET THE PRODUCT IN THE FREEZER SOFTEN.
- TURN OFF THE HOT GAS SWITCH (9 FIG. 1)
- CLOSE THE SHUTTER (3 FIG. 3).

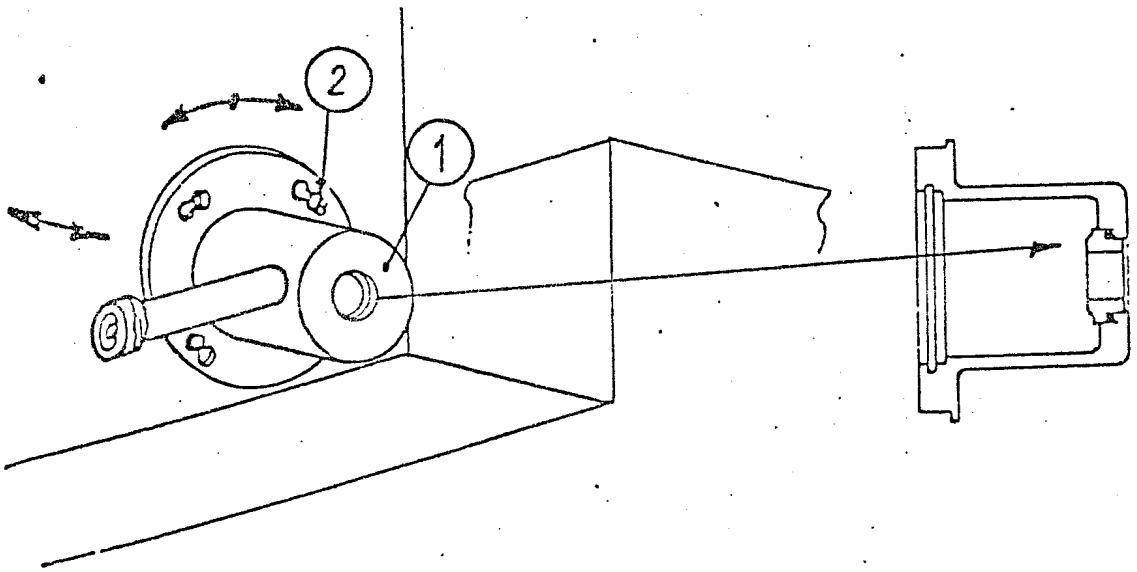
AT THIS POINT THE MACHINE IS ONCE AGAIN READY TO RE-START PRODUCTION.

WASHING OF THE FREEZER

AFTER THE PRODUCTION HAS BEEN COMPLETED, WASH THE MACHINE THOROUGHLY. ALL PARTS IN CONTACT WITH THE MIXTURE MUST BE DISASSEMBLED. USE PARTICULAR CARE WHEN REMOVING THE BEATER FROM THE FREEZER AND DON'T HIT THE EDGE OF THE CHROME PLATED TUBE WITH THE PINS.

THE DISASSEMBLED PARTS MUST BE INDIVIDUALLY WASHED AND DRIED USING DETERGENTS AND DISINFECTANTS NOT HARMING THE STAINLESS STEEL (FOR THE WASHING MEANS IT IS BETTER TO ASK SPECIALIZED MAKERS).

FOR DISASSEMBLING THE BREECHES PROCEED AS FOLLOWS:



FOR DISASSEMBLING THE BREACHES (1) SLIGHTLY SLACKEN THE SCREWS (2) WITHOUT REMOVING THEM, THEN SLIGHTLY ROTATE THE ENTIRE BREECH (1) CLOCKWISE AND PULL IT OUTWARD. TO REASSEMBLE THEM FIRST INSERT THE BREECH IN ITS SEAT THEN ROTATE COUNTERCLOCK-WISE AND THEN FASTEN THE SCREW (2).

SHOULD THE REAR LEAK AFTER WASHING HAS BEEN EFFECTED AND PRODUCTION STARTED IT COULD MEAN THAT THE FIXED PACKING RING HAS NOT BEEN INSERTED PROPERLY, THUS DISASSEMBLE AND CORRECT.
ALL THE GASKETS OF THE PIECES DISASSEMBLED MUST BE GREASED WITH SOLIDE EDIBLE FAT BEFORE REASSEMBLING THEM. (VASELINE, ETC...).

WARNING

IN ORDER TO WASH THE MACHINE IT IS POSSIBLE TO USE, FOR THE FIRST WASHING OPERATION, HOT WATER SUCTIONED BY THE PUMP AND THEN CONVEYED THROUGH THE FREEZING PIPE AND THEN EXPELLED.
BOTH PUMP AND BEATER'S TURBINE MUST FUNCTION AS LITTLE AS POSSIBLE.
AS THE WATER IS NOT LUBRIFICATING LIQUID IT MAY, IN THE LONG RUN, RUIN THE ANTI-FRICTION BUSHING MOUNTED ON THE VARIOUS PIECES.
IT IS BETTER, AS INDICATED IN PAGE 12, TO DISASSEMBLE AND WASH THE PIECES INDIVIDUALLY.
IF THE USER IS EQUIPPED WITH AN AUTOMATIC WASHING SYSTEM (CIP) IT IS POSSIBLE TO CONNECT THE MACHINES TO THE SYSTEM BY CONNECTING THE DELIVERY SIDE TO THE PUMP'S HEAD AND THE OUTLET TO THE TAP'S OUTLET.
DURING AUTOMATIC WASHING, START BOTH PUMP AND BEATER TURBINE MANUALLY FOR A FEW SECOND EVERY 5 MINUTES.

NEVER LET THE PUMP AND THE BEATER FUNCTION UNINTERRUPTEDLY DURING THE WASHING PERIOD. "TECHNOGEL" IS NOT LIABLE FOR THE DAMAGES WHICH MAY DERIVE.

REFRIGERATING SYSTEM

IT CONSISTS OF TWO INDEPENDENT REFRIGERATING SYSTEMS.

BEING THE TWO SYSTEMS QUITE IDENTICAL WE ARE HEREAFTER EXPLAINING AND REFERRING TO A SINGLE REFRIGERATING SYSTEM.

THE MAIN CAUSES FOR THE INEFFICIENCY OF THE REFRIGERATING SYSTEM MAY BE DUE TO:

- SOLENOID VALVE OF THE LIQUID: CLOSED OR DAMAGED (4 FIG. 4)
  CHECK THE SOLENOID AND REPLACE THE POSSIBLE WORN OUT PARTS.
- SOLENOID OF THE HOT GAS (11 FIG. 4): PARTIALLY JAMMED OR SEMI-OPEN.

SHOULD THE SOLENOID REMAIN OPEN IT WOULD CAUSE A RELEVANT FRIGORIFIC POWER LOSS, WHICH IS DETECTED BY MEANS OF THE VACUUM METER (25 - .. 27 FIG. 2).

CHECK WHETHER THE SOLENOID MUST BE REPLACED AND REPLACE THE WORN OUT PARTS.

- DIRTY CATRIDGE FILTER (3 FIG. 4).

WHEN THE FILTER OF THE LIQUID IS OBSTRUCTED IT HAS TENDENCY TO FROST OUTSIDE: REMOVE AND REPLACE IT.

- WRONG SETTING OF THE THERMOSTAT (6 FIG. 4).

THE THERMOSTAT MUST BE SET SO THAT THE VACUUM METER (12 FIG. 4) ON THE SUCTION SIDE INDICATES A VALUE COMPREHENDED BETWEEN - 25°C AND - 32°C (R 502).

INSUFFICIENT CONDENSATION WHICH MAY BE DUE TO:

- POOR TAP WATER SUPPLY.

CHECK THAT ALL THE VALVES INSTALLED ON THE TAP WATER ARE NOT CLOSED OR OBSTRUCTED, THUS ENSURING A REGULAR WATER FLOW.

- WRONG SETTING OF HYDROSTAT (16 FIG. 4) WHICH IS TOO CLOSE.

ADJUST THE HYDROSTAT BY MEANS OF THE SCREW LOCATED ON THE REAR SIDE. WHEN THE VALVE IS CORRECTLY SET, THE TEMPERATURE OF THE WATER COMING OUT OF THE CONDENSER WILL REMAIN WITHIN 30°C/35°C.

- OBSTRUCTION OF THE CAPILLARY PIPE FEEDING THE BELLOWS OF THE HYDROSTAT.

  FREE THE CAPILLARY PIPE FROM OBSTRUCTIONS.

- POOR AMOUNT OF REGRIGERATING LIQUID IN THE REFRIGERATING SYSTEM.

IF THE ENTIRE ELECTRIC SYSTEM AND EVERY PART PREVIOUSLY INDICATED FUNCTION REGULARLY, THE POOR PERFORMANCE OF THE REFRIGERATING SYSTEM MAY BE DUE TO THE LACK OF REFRIGERATING LIQUID WITHIN THE SYSTEM. THIS CONDITION CAN BE EASILY DETECTED THROUGH THE CORRESPONDING SPY. (5 FIG. 4)

BEFORE ADDING REFRIGERATING LIQUID (R 502), LOOK FOR THE CAUSE WHICH HAS ENGENDERED THE LOSS.

PERIODICALLY CHECK THE OIL LEVEL IN THE REFRIGERATING COMPRESSOR BY MEANS OF THE PEEP-HOLE (18 FIG. 4).

WARNING

THE ORDER FOR SPARE PARTS MUST SPECIFY THE FOLLOWING:

A) EXACT TYPE OF THE MACHINE

B) SERIAL NUMBER (ON THE PLAQUE ON THE REAR OF THE MACHINE)

C) SPARE PART CATALOGUE NUMBER (HEREUNDER)

D) SPARE PART REFERENCE NUMBER.

E) TABLE RELATIVE NUMBER.

SPARE PARTS CATALOGUE N: 05287

MACHINE TYPE: F. 600/2 N.T.

SERIAL NUMBER:

FIGURE 1

1) AMMETER RELAY 1ST CYLINDER
2) AMMETER RELAY 2ND CYLINDER
3) 1ST CYLINDER BEATER'S SHAFT CONTROL SWITCH
4) 2ND CYLINDER BEATER'S SHAFT CONTROL SWITCH
5) 1ST CYLINDER REFRIGERATING COMPRESSOR CONTROL SWITCH
6) 2ND CYLINDER REFRIGERATING COMPRESSOR CONTROL SWITCH
7) MIX PUMP CONTROL SWITCH
8) 1ST CYLINDER HOT GAS CONTROL SWITCH
9) 2ND CYLINDER HOT GAS CONTROL SWITCH
10) 1ST CYLINDER BEATER MOTOR PILOT LIGHT
11) 2ND CYLINDER BEATER MOTOR PILOT LIGHT
12) 1ST CYLINDER HOT GAS SOLENOID PILOT LIGHT
13) MIX MOTOR PUMP PILOT LIGHT
14) 2ND CYLINDER HOT GAS SOLENOID PILOT LIGHT
15) 2ND CYLINDER BEATER MOTOR PILOT LIGHT
16) 2ND CYLINDER REFRIGERATING COMPRESSOR MOTOR PILOT LIGHT
17) 1ST CYLINDER BEATER MOTOR FAILURE LAMP
18) 1ST CYLINDER REFRIGERATING COMPRESSOR MOTOR FAILURE LAMP
19) MIX PUMP MOTOR FAILURE LAMP
20) 2ND CYLINDER BEATER MOTOR FAILURE LAMP
21) 2ND CYLINDER REFRIGERATING COMPRESSOR MOTOR FAILURE LIGHT
22) LIGHT INDICATING CURRENT FEED TO THE MACHINE
23) EMERGENCY PUCH-BUTTON

FIGURE 2

24) 1ST CYLINDER COMPRESSION VACUUM METER
25) 1ST CYLINDER SUCTION VACUUM METER
26) 2ND CYLINDER COMPRESSION VACUUM METER
27) 2ND CYLINDER SUCTION VACUUM METER

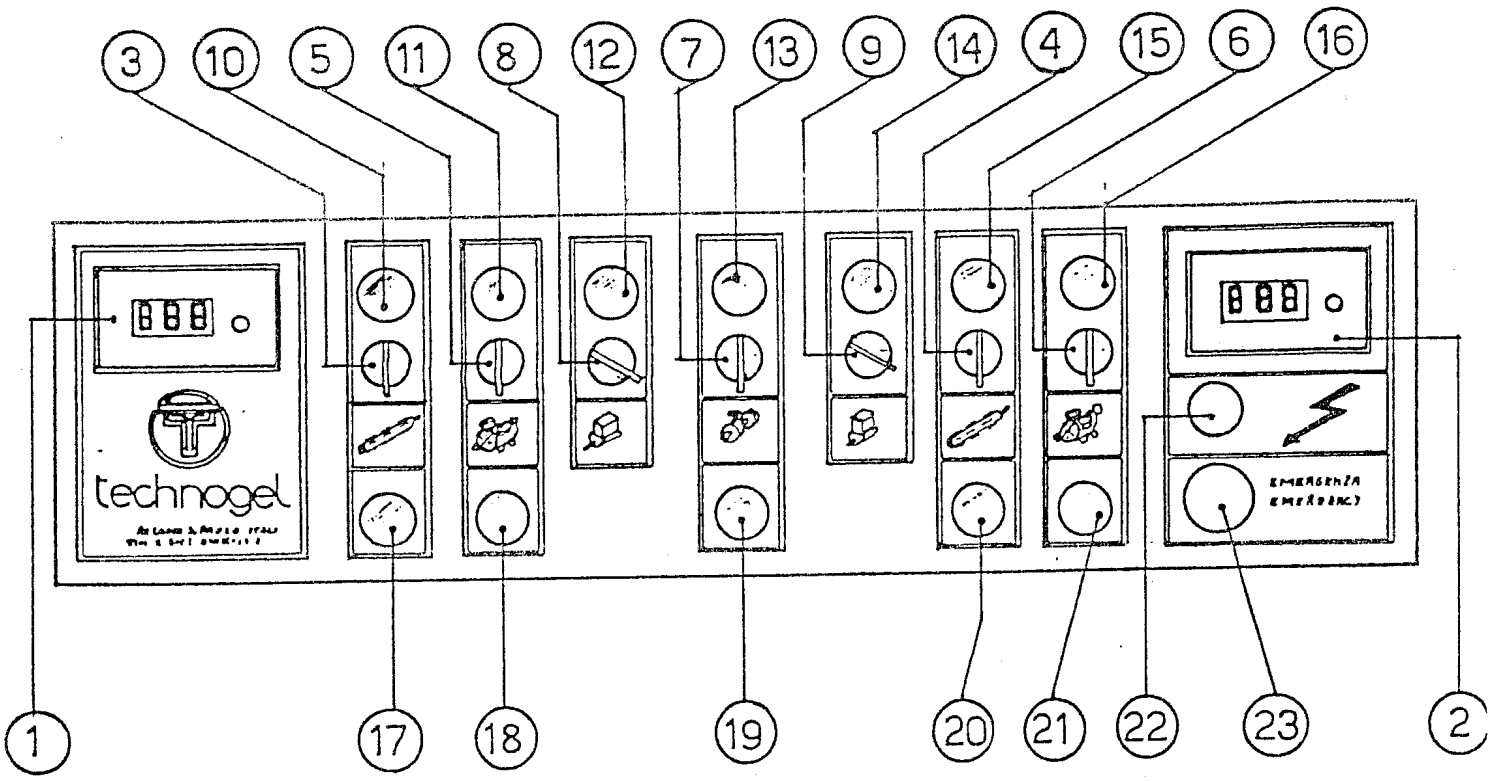


FIGURA 1

FIGURA 2

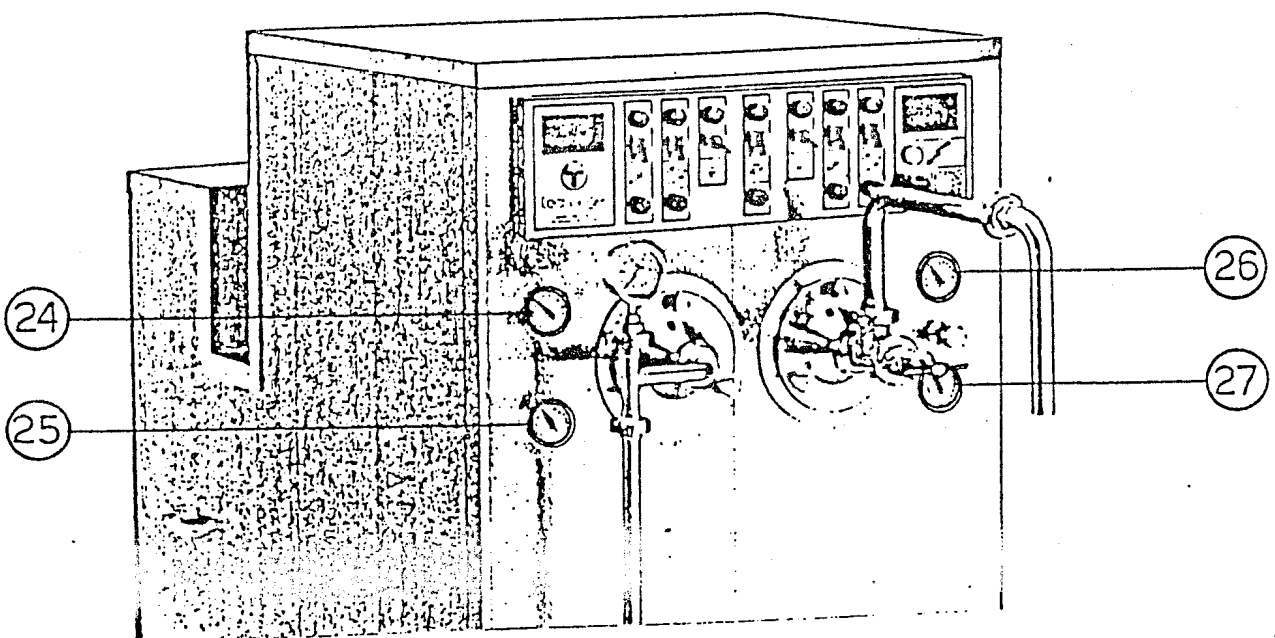


FIGURE 3

1) ICE CREAM OUTLET PIPE
2) PRESSURE REGULATOR TAP
3) HOT GAS SHUTTER (2ND CYLINDER)
4) MIXTURE PUMP VARIATOR HANDWHEEL
5) MIXTURE AIR PUMP CONTROL VACUUM METER
6) AIR REGULATION VALVE
7) ADJUSTABLE FEET
8) SAFETY VALVE
9) CYLINDER PRESSURE MANOMETER
10) MIX INLET UNION
11) MIXTURE PIPE FROM PUMPS TO 1ST FREEZING CYLINDER
12) CONTROL BOARD
13) MOVABLE SIDE PANELS
14) MIXTURE PUMPS REVOLUTION COUNTER
15) MIXTURE PUMPS GROUP
16) AIR SUCTION ASSEMBLY
17) MIXTURE INLET PIPES ASSEMBLY ON PUMPS
18) MIXTURE SUCTION ELBOW
19) MIXTURE SUCTION PIPE ASSEMBLY ON PUMPS

FIGURA 3

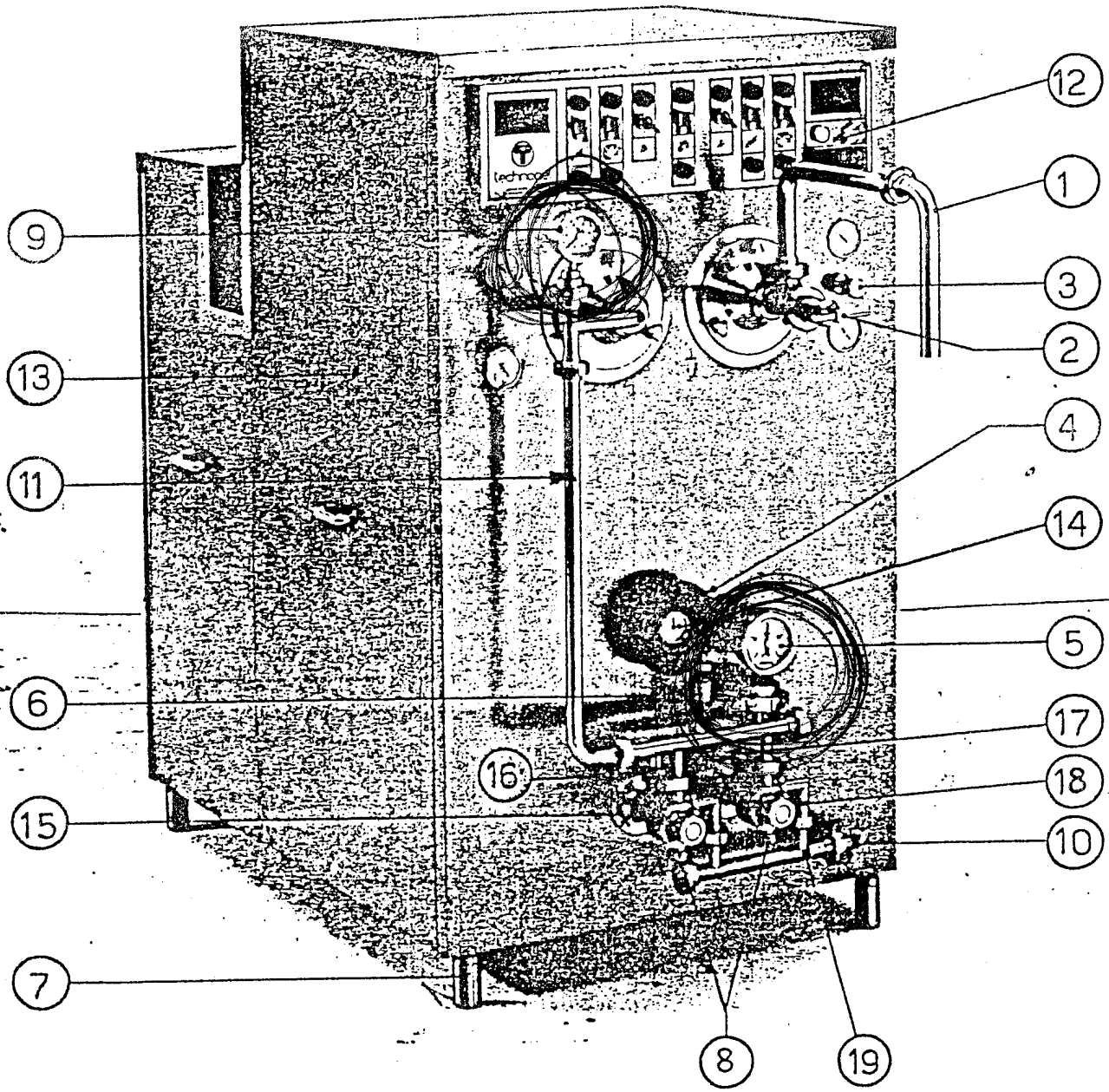


FIGURE 4

1) REFRIGERATING COMPRESSOR
2) BOMB CONDENSER
3) FILTER
4) SOLENOID FOR LIQUID
5) LIQUID INSPECTION HOLE
6) THERMOSTAT VALVE
7) EVAPORATOR
8) SUCTION ANTI-VIBRATION UNIT
9) COMPRESSION ANTI-VIBRATION UNIT
10) HOT GAS SHUTTER
11) HOT GAS SOLENOID
12) LOW PRESSURE MANOMETER
13) LOW PRESSURE SWITCH
14) HIGH PRESSURE MANOMETER
15) HIGH PRESSURE PRESSURE SWITCH
16) HUDROSTAT VALVE
17) 3-WAY MEMBRANE FAUCET
18) COMPRESSOR OIL INSPECTION HOLE
19) SEPARATOR AIRTIGHT TAP
20) SEPARATOR AIRTIGHT TAP
21) SEPARATOR AIRTIGHT TAP
22) SUCTION TAP
23) COMPRESSION TAP
24) LIQUID RECEIVE TAP
25) WATER INLET
26) WATER OUTLET

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FIGURA 4

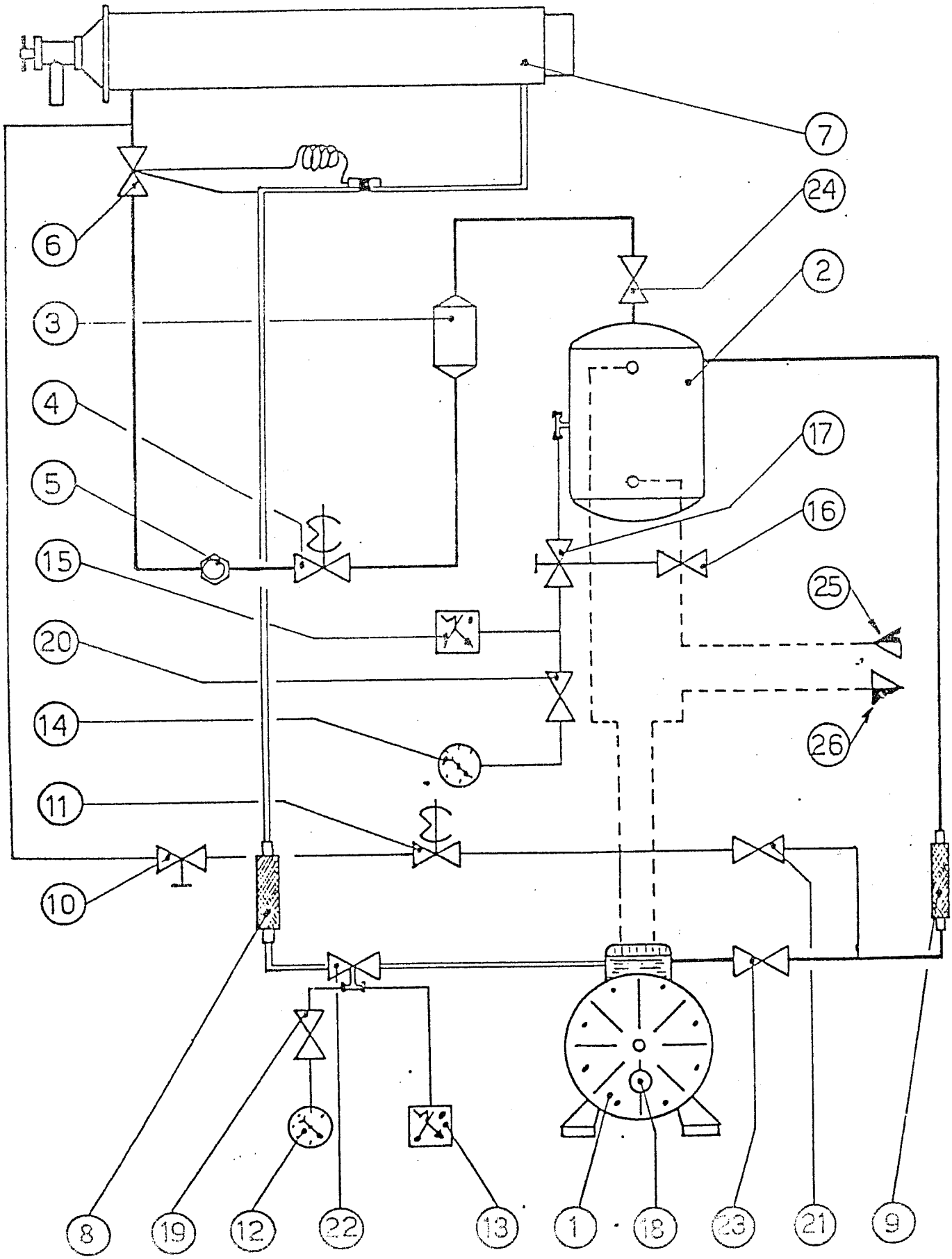

FIGURE 5

1) REFRIGERATING COMPRESSOR
2) CONDENSER
3) LEAKAGE OUTLET
4) HOT GAS PIPE
5) FAN MOTOR
7) SOLID CARTRIDGE FILTER
8) VISUAL LIQUID INDICATOR
9) LIQUID SOLENOID VALVE
10) THERMOSTAT VALVE
11) ICE CREAM OUTLET TAP
16) HOT GAS SOLENOID VALVE
18) HOT GAS TAP

FIGURE 6

6) HIGH AND LOW PRESSURE SWITCH
12) PUMP REVOLUTION REGULATION HANDWHEEL
13) PUMP
14) PRESSURE VALVE SWITCH
15) PUMP MOTOR VARIATOR
17) TURBINE MOTOR

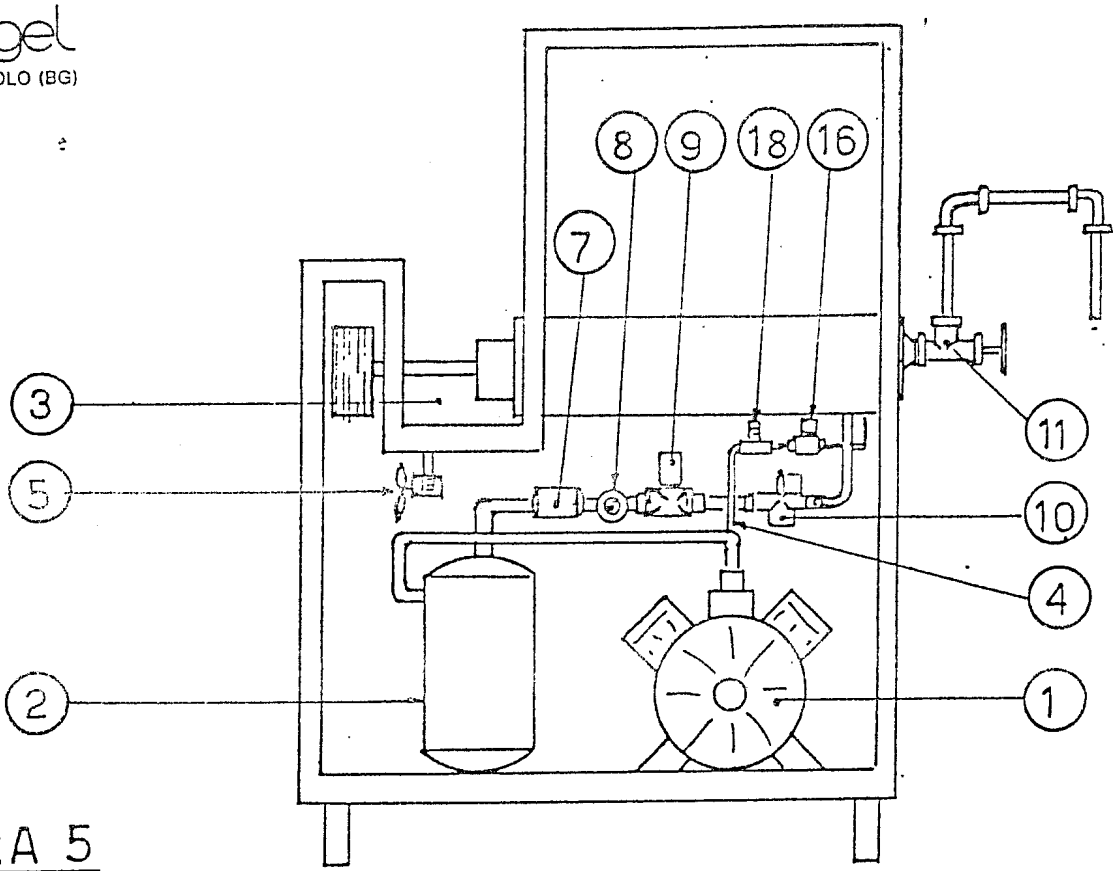

FIGURA 5

FIGURA 6

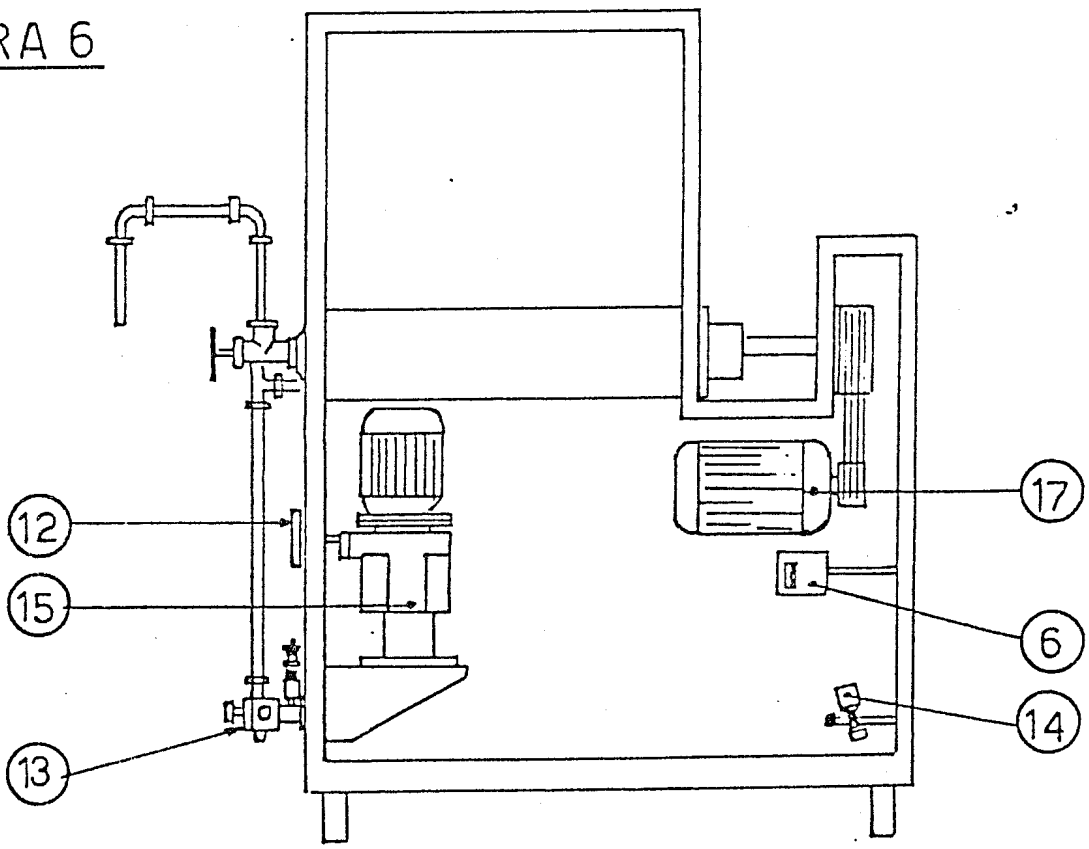

FIGURE 7

2) TAP HANDWHEEL

3) BUSH

4) SPRING PUSHER

5) TAP SPRING

7) "T" UNION

8) TAP PISTON

505) GASKET

506) PULLEY

526) O'RING

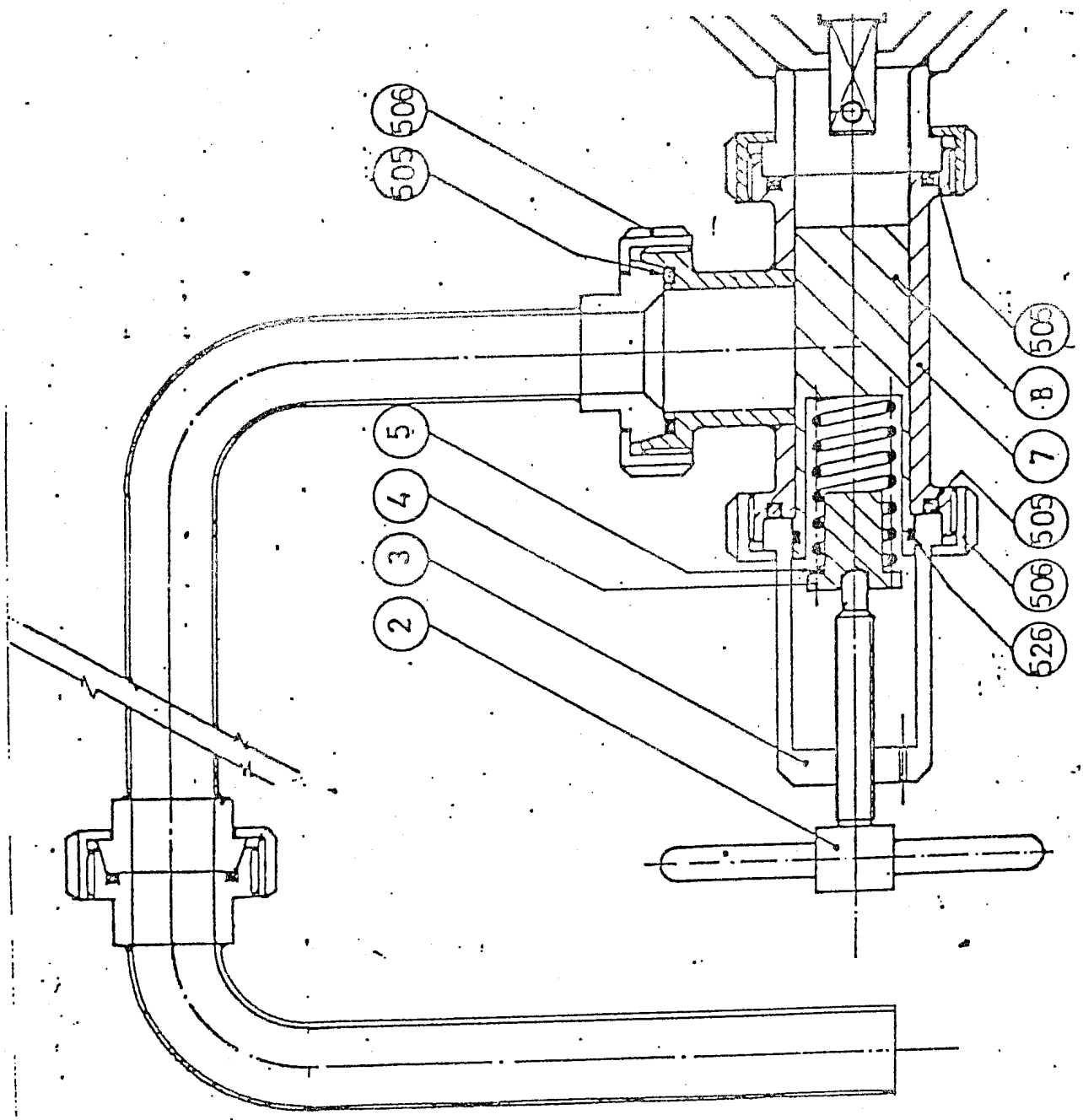

FIGURA 7

FIGURE 8

10) PARTICULAR OF FLANGE

11) FRONT FLANGE

12) FLANGE HANDWHEEL

13) STUD BOLT

14) SPRING-LOCK RING

15) BUSH

16) BUSHING HOLDING BREECH

17) TURBINE CAMSHAFT

18) KNIFE LCOK PIN

19) CENTRAL KNIFE HOLDER

20) KNIFE

21) TURBINE

22) FREEZING PIPE

23) UNDERFLANGE

24) TURBINE SUPPORT

25) UNION

26) CONNECTION ON BREECH

27) BREECH

32) REAR TURBINE BUSHING

33) SUCTION UNION

34) SIDE KNIFE HOLDER

35) COMPRESSION UNION

36) UNDERFLANGE

37) TURBINE HOLDING CAP

54) SUPPORT

507) O'RING

508) FRONT SEAL

510) GASKET

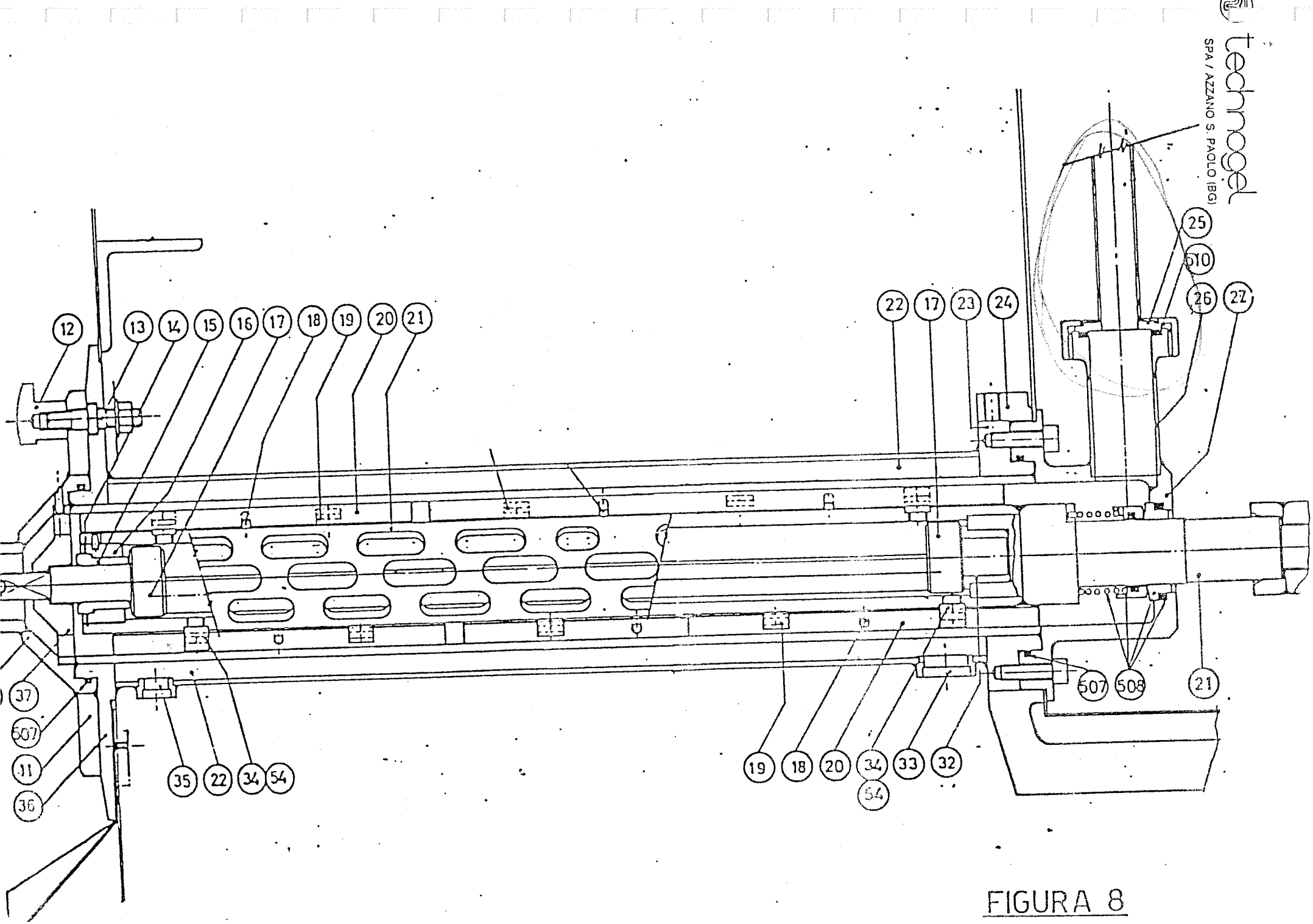

FIGURA 8

FIGURE 9

21) TURBINE

24) TURBINE SUPPORT

28) FLANGE

29) SUPPORTING SHAFT

30) DRAFT SUPPORT

31) SPACER FOR SUPPORT

44) SUPPORT PULLEY

511) BEARING

512) KEY

513) BELT

FIGURA 9

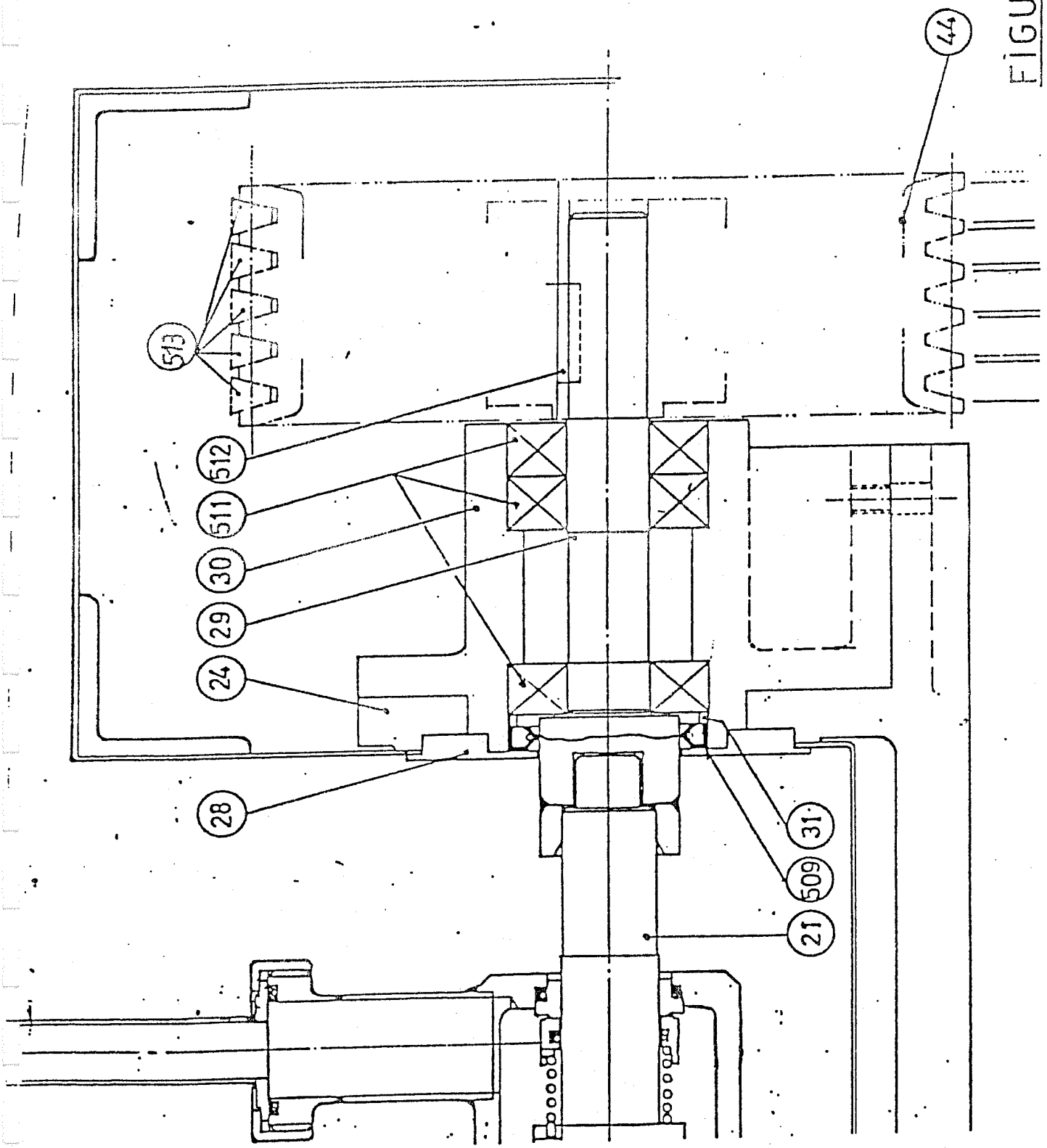

FIGURE 10

1) BODY OF PUMP
3) PARTICULAR OF PUMP BODY
7) BUSH FOR SPRING ADJUSTMENT
8) RING
9) SEE POS. 7
10) SPRING LOCK DISK
11) VALVE
12) ADJUSTMENT SPRING
13) ADJUSTMENT SPRING
14) PUMP HEAD
15) BUSH
16) BUSH
17) BLEED VALVE SPRING
18) BLEED HOOD
19) PARTICULAR OF HOOD
20) SEE POS. 18
21) VALVE NIPPLE
22) PISTON
23) PISTON ASSEMBLY
24) PUMP PIN
25) PUMP TIE-ROD
28) TIE-ROD CAM DRIVE
29) PUMP TRAY
30) VARIATOR HANDWHEEL
31) VARIATOR EXTENSION
32) THREADED PIN
33) BALL SEAT DISK
34) SPRING
36) AIR VALVE
37) SUCTION ASSEMBLY ON PUMPS
38) PUMPS DRIVING SHAFT
39) BUSH

503) O'RING
504) O'RING
505) MALE TO BE WELDED
506) PROPELLER (NUT)
507) GASKET
508) PLUG
509) BALL
510) O'RING
511) O'RING
514) BALL BEARING
518) MOTORVARIATOR WITH REDUCTION GEAR
519) MOTORVARIATOR
520) BALL
521) O'RING
522) O'RING
523) REDUCTION GEAR

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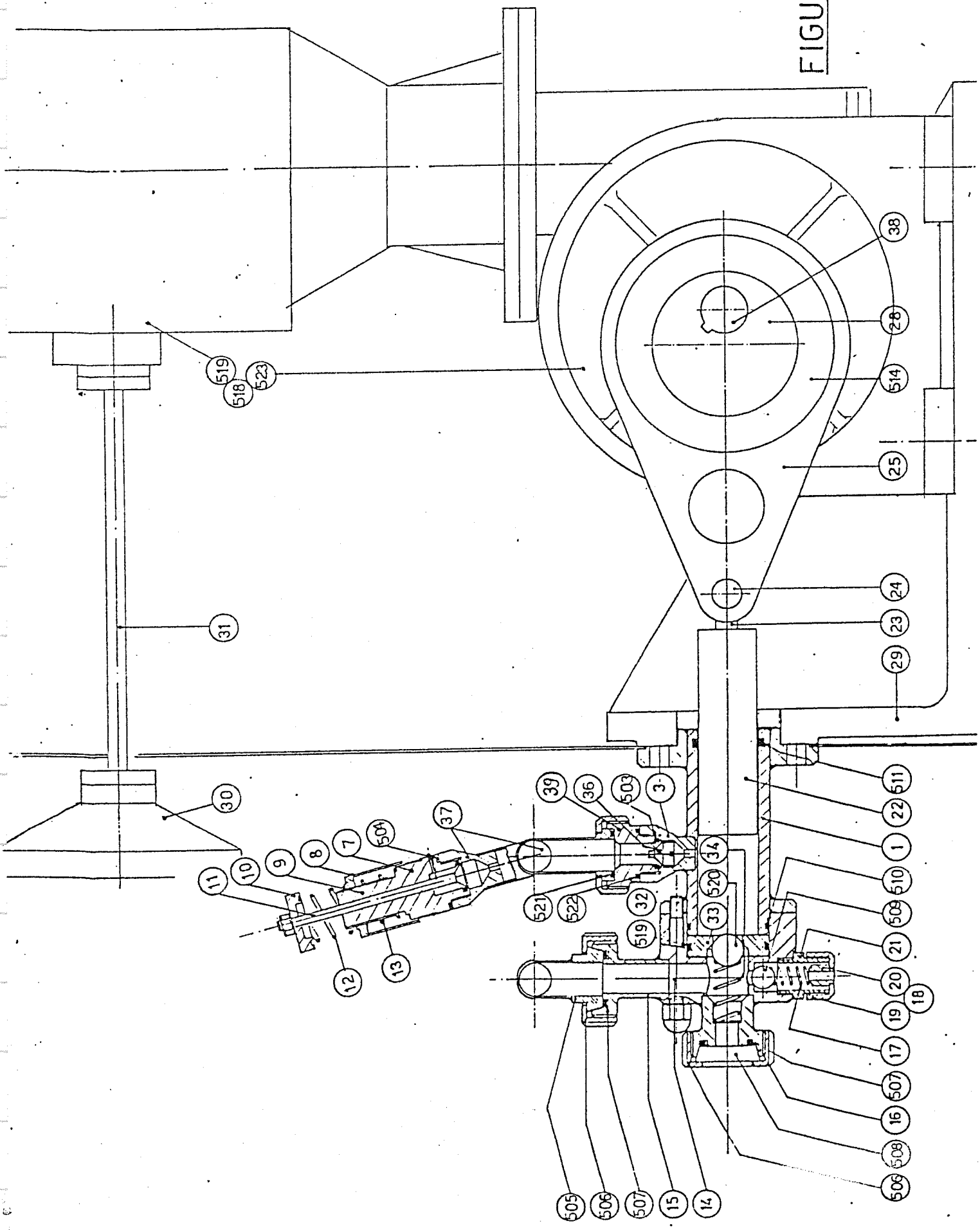
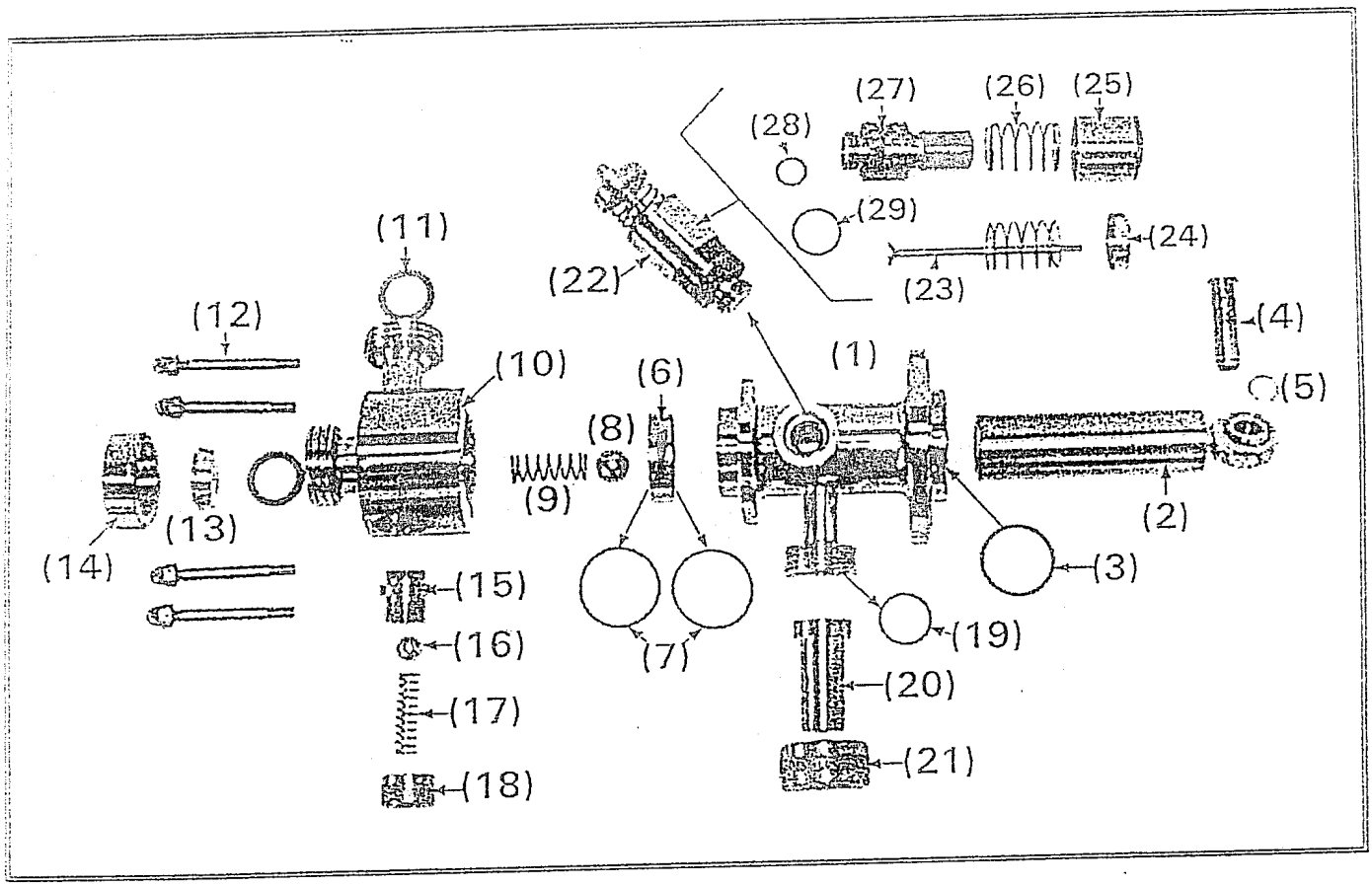
FIGURA 10



- Pump assembly FREEZER 100-150-300-400 600 two flavours - 800 two flavours

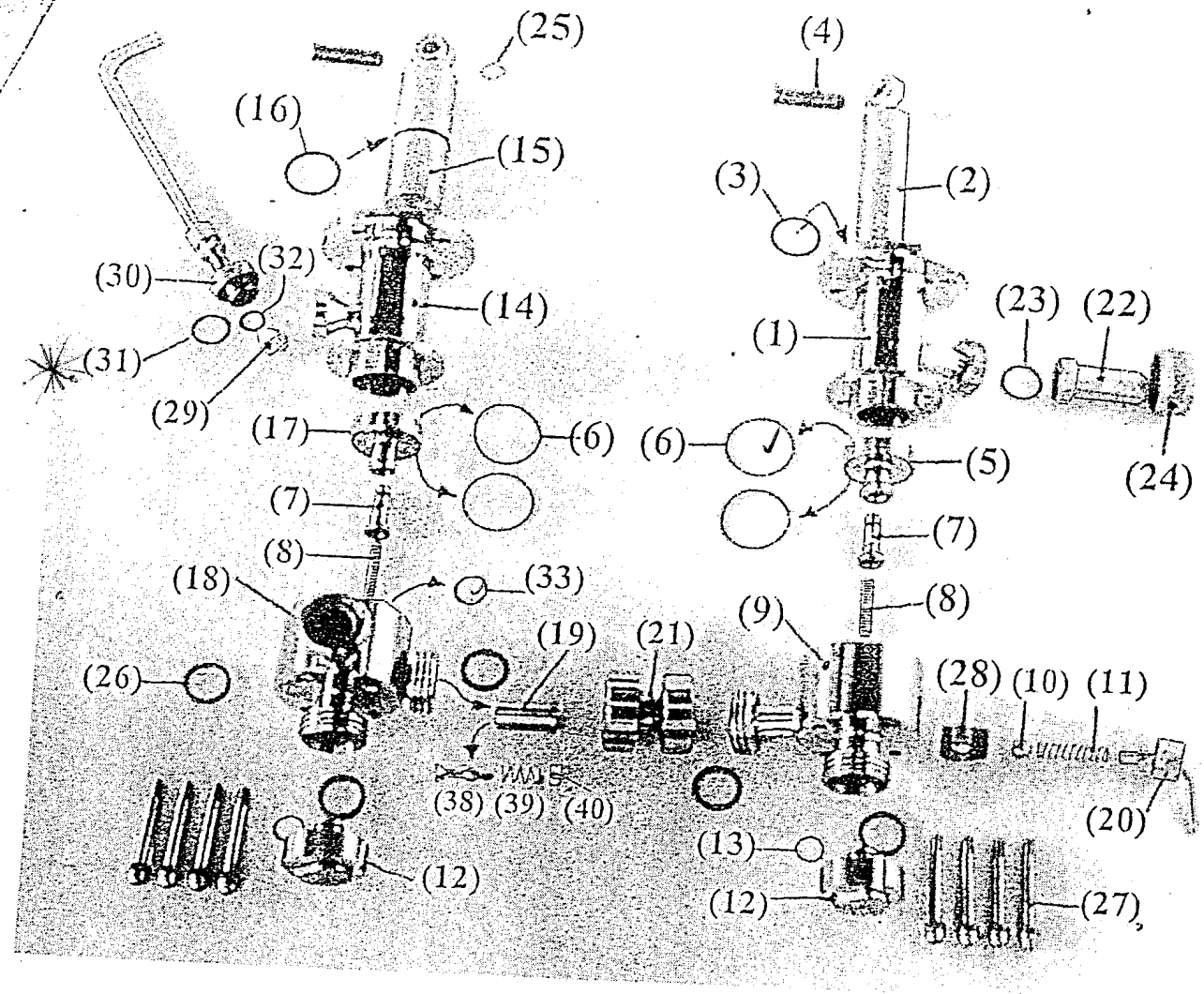


Pos. #	# of Pieces	Part name	FREEZER 100 FREEZER 150 Part number	FREEZER 300 FREEZER 600/800 two flavours Part number
1	1	Pump casing	FR1-3737.3/10	FR3.5675.3
2	1	Pump piston	FR1-2221-3/20	FR3-2219.3/20
3	1	Pump "OR" gasket	MX-0054	FR3-0054
4	1	Hardened piston pin	FR1-2220.0/11	FR1-2220.0/11
5	1	Piston pin snap ring	SEEI-14E	SEEI-14E
6	1	Check valve seat	FR1-5670.0	FR1-5670.0
7	2	"OR" gasket for valve seat	VR-029	VR-029
8	1	Check valve ball	FR3-0074	FR3-0074
9	1	Valve ball spring	FR1-5672.0	FR1-5672.0
10	1	Pump head	FR1-3738.0	FR1-3738.0
11	2	"DN20" type gasket	R-013.20	R-013.20
12	4	Head blocking screws	FR1-2226.0	FR1-2226.0
13	1	Head plug	R-025.20	R-025.20
14	1	Plug ring nut	R-012.20	R-012.20
15	1	Safety valve nipple	FR-2061.0	FR-2061.0
16	1	Safety valve ball	FR3-0074	FR3-0074
17	1	Safety valve spring	FR1-2062.0	FR1-2062.0
18	1	Safety valve blocking ring nut	FR1-3099.3	FR1-3099.3
19	1	Rubber holder "OR" gasket	MX-0003	MX-0003
20	1	Mixture inlet rubber holder	FR1-3302.0/10	FR1-3302.0/10
21	1	Rubber holder blocking ring nut	FR1-2258.0	FR1-2258.0
22	1	Complete air register valve	FR3-0193	FR3-0193
23	1	Air valve stem	FR1-3732.0	FR1-3732.0
24	1	Spring ball bush	FR1-2044.0	FR1-2044.0
25	1	Air adjustment ring nut	FR1-3731.0	FR1-3731.0
26	2	Air valve spring	FR1-2046.0	FR1-2046.0
27	1	Air valve body	FR1-3730.0	FR1-3730.0
28	1	Stem seal "OR" gasket	EP-0010	EP-0010
29	1	Valve body seal "OR" gasket	MX-0003	MX-0003

old 300

old FR3-0068

ump unit FREEZER 600/1



LIST OF PUMP UNIT PIECES

Pos. N°.	Piece N°.	Name of component	Code
1	1	1st stage pump body (right hand pump)	FR6-5421.3/10
2	1	1st stage piston pump	FR3-2219.3/20
3	1	1st stage pump O-ring	FR3-0054
4	2	Tempered piston pin	FR1-2220.0/11
5	1	1st stage valve seat	FR6-6431.0
6	4	O-ring for valve seat	FR6-0186
7	2	Chrome plated slide valve	FR6-6430.0
8	2	Spring for slide valve	ML-6434.6
9	1	1st stage pump head (right hand head)	FR6-5040.3/10
10	2	Safety valve ball	FR3-0074
11	2	Safety valve spring	FR1-2062.0
12	2	Complete spring guide cap with rowel	
13	2	O-ring for spring guide cap	RR-0076
14	1	2nd stage pump body (left hand pump)	FR6-5037.3
15	1	2nd stage pump piston	FR6-5027.3
16	1	O-ring for 2nd stage piston	OM-0003
17	1	2nd stage valve seat	FR6-6432-0
18	1	2nd stage pump head (left hand head)	FR6-5022.3/10
19	1	Check valve: - (19) valve seat - (38) shank only of conical valve - (39) spring only for shank - (40) spring guide only	 FR6-5031.0 FR6-5032.0/10 FR6-0189 FR6-5033.0
20	2	Safety valve locking ring nut	FR1-3099.3
21	1	Pump union connector complete with rowels - O-ring only for connector	 FR6-0188
22	1	Mixture inlet rubber holder	FR1-3302.0/10
23	1	O-ring for rubber holder	MX-0003
24	1	Rubber holder locking ring nut	FR1-2258.0
25	2	Seeger pin lock	SEEI-14E
26	5	DN 20 type washer	R-013.20
27	8	Head locking screws	FR1-2226.0
28	2	Safety valve nipple	FR1-2061.0
29	1	Delrin compressed air check valve	FR6-0248
30	1	Air attachment connector	FR6-5036.0
31	1	O-ring for air attachment connector	MX-0003
32	1	O-ring for check valve seat	FR6-0240
33	1	O-ring for 2nd stage valve seat seal	FR6-0187