



You have chosen our plants, and we thank you for your reliance! This hand-book will be of much interest to you; even the smallest detail could be useful to spare time, stress and money. READ IT!

On our side we can assure you that have been used only first class materials, coming from the best firms, and that we carried out the most accurate test and inspection on account of our good will to assist you in the best way.

MARK S.p.A.

YOUR CLOSE CIRCUIT PLANT

« SERIES MIXMARK »

INSTALLATION MIXMARK FIG. 1

The series of « MIXMARK » plants, includes normally the following models:

- Installation of 150 lt/h.
- Installation of 250 lt/h.
- Installation of 500 lt/h.
- Installation of 1000 lt/h.
- Installation of 2000 lt/h.

These plants produce respectively 150 - 250 - 500 - 1000 and 2000 lt/h. of pasteurized, homogenized and cooled mix.

Each MIXMARK installation is made up by:

- 1 - Boiler
- 2 - Pasteurizer of same capacity
- 1 - Homogenizer
- 1 - Plate type heat exchanger
- 1 - Pump for hot water circulation
- 1 - Hygienic pump for homogenizer-feeding.

All the plants are provided with one general electric station (2) and, for operating, they need natural mains water and chilled water at $+1^{\circ} \div +2^{\circ}\text{C}$. ($33,8 \div 35,6^{\circ}\text{F}$).

The natural water is used for:

- 1^o) feeding the boiler
- 2^o) cooling of first stage of plate heat-exchanger
- 3^o) cooling of homogenizer pistons
- 4^o) washing the plant and various services.

The chilled water at $1 \div 2^{\circ}\text{C}$. ($33,8 \div 35,6^{\circ}\text{F}$.) is used for:

- 1^o) cooling of second stage of plate heat exchanger
- 2^o) preservation of the mix into the ageing vast.

Each plant is completed by one or two chilled water tanks. This depends on the hourly production capacity of the plant and on the number of ageing vats installed.

For the production of chilled water, see chapter «chilled water tank».

The complete mix cycle of a MIXMARK PLANT, includes:

- Heating up to 80/85°C. (176 ÷ 185°F.) by means of hot water from a boiler.
- Homogeneization at 120 - 150 ATM.
- Cooling by a plate type heat exchanger, down to +6 ÷ +8°C, (42,8 ÷ 46,4°F.)
- Transfer to the ageing vats of the mix pushed by the homogenizer.

INSTALLATION OF THE PLANT

Position the plant on the selected place and have the base platform duly levelled, giving it a slight front slope.

Make sure the mains tension is suitable to the plant electrics, then effect the electric connection.

Connect the mains water to the inlet union, generally placed on the rear of the plate type heat exchanger: thus water is fed directly to the boiler and to the whole heating system.

Then connect union (n. 1 - plate 3) to the gas feedingpipe (see instructions for Boiler).

For the size of the different connections, see the table of the technical data on plate 2.

In the central grid sector underneath the base, there is the general water drain (13-Fig. 1) which is to be piped to reach the nearest suitable drain.

Once the electric connection are effected, make sure the motors turn in the direction indicated by the arrows, paying special attention to the one fitted on the homogenizer.

INSTALLATION OF THE CHILLED WATER TANK

The Mixmark Plant can be supplied with one or two tanks for cooling the water.

In case only one tank is supplied it is intended both for cooling the second stage of the plate heat exchanger and for the mix preservation ageing vats. In such a case, act as follows:

- A) Check that mains tension is suitable to the tank electrics, then effect the electric connection (see scheme Plate 7).
- B) Connect the inlet mains water pipe for condensation to the inlet union (N. 1 plate 7): to the union (N. 2 plate 7) the drain pipe has to be connected. The connection pipes should not be smaller in diameter than those of the tank and should not have narrowings. In case there is no name plate, the inlet tube is the one with hydrostatic valve (3 plate 7).
- C) Connect the chilled water piping following scheme of plate 4. The tank has always a delivery union (N. 26 plate 1) connected to the inlet of a water control station which has different cocks. This water control station is normally fitted on the tank itself but it can also have a different location according to the customer's requirements. One union of the water control station should be piped to the inlet of the plate heat exchanger, where there is the name plate «CHILLED WATER INLET». The CHILLED WATER OUTLET of the plate heat exchanger is then to be piped to the return water union of the tank (N. 25 plate 1). The other unions on the water control station are used to deliver chilled water to the various ageing vats.

The outlets from the ageing vats, duly connected, must all flow into a single pipe which is to be linked to the water return union on the tank (N. 24 plate 1). If one ageing vat is empty or for some reason we do not want it to be cooled, close the relevant cock on the water control station.

Whilst two chilled water tank are supplied, the one with bigger capacity is exclusively for the plate heat exchanger, while the other one is for cooling the ageing vats only.

In this case, for both tanks, follows instructions given on paragraph A and B.

For the chilled water connections, follow carefully the layout of plate 5.

As can be seen, the first tank, with bigger capacity, has one delivery and one return piping to the plate heat exchanger.

The second tank, on the contrary, is to be connected to the ageing vats via the water control station.

The first operation for starting the plant, is heating the mix to be pasteurized.

The pasteurizers are heated by hot water supplied by a gas boiler and circulated by a pump.

Town gas, natural gas or liquid gas in bottles, can be used.

At our works, each time, the boiler will be equipped for the type of gas available at your factory.

See hereafter, how to arrange the plant for mix-heating.

Open the mains water cock. Automatically water is fed to the boiler. All plants are complete with a water-pressure reduction unit (12). This reducer has to be adjusted so that the pressure-gauge (11) located at the inlet of the water piping reads a pressure between 1 and 1,5 ATM.

ATTENTION: Below the above figures it is not advisable to use the boiler. The monobloc group (7) separates the air bubbles contained in the water piping and discharges them through the bleeder (8).

In order to activate this valve, remove the knurled cap (9) located on the top of the valve itself.

To make easier the air discharging, start the hot water pump (10) then stop the pump and restart it when pasteurization begins.

The hot water circuit is also complete with one hydraulic air vessel (5) which absorbs the water dilatation, so keeping constant the inner pressure.

There is also the safety valve (8) which opens automatically if the inner pressure goes over 3 ATM., and lets steam and water out on the base, through pipe (23).

The thermo-pressure-gauge (6) screwed on bleeder (7) has two scales reading at the same time water temperature and plant pressure. Provide for an adequate chimney to the boiler, so that the combustion residual can be discharged out. For the pipe dimensions, see plate 2.

The pipes of the chimney for the combustion residuals discharge, must have the same or bigger diameter than the boiler outlet pipe.

IGNITION OF THE BOILER PLATE 3


Link the union (1) to the gas pipe from the network.

After having filled with water the boiler and the plant, it's necessary to ascertain the type of valve mounted on the boiler itself before switching on the igniter.

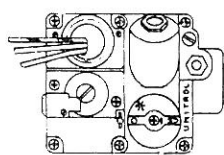
« Unitrol 7000 BER » or « ELETTROSIT » are the two different denomination of these valves.

These two types are different only for their construction shape, but are quite indetential as for the operating direction.

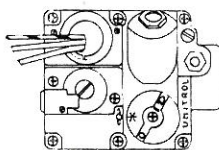
In case the valve is « Unitrol 7000 BER », for the ignition of the burner, operate as follows:

- 1°) Open the gas tap.
- 2°) Give voltage by means of the general switch on the electric panel (3Plate 1).
- 3°) Turn the valve knob leftward until the mark « ★ » coincide with the reference red notch. Press down the knob and at the same time press the button of the igniter.
Keep the knob pressed for at least 20 seconds, then leave it slowly. If the pilot, flame does not remain lighted, repeat the operation.
- 4°) Turn the knob and let the position  coincide with the red reference notch.
- 5°) Switch on the little switch (5-Plate 1) to energize the electrovalve then, after 30 seconds approx. the principal burner will light-on, since this is a slow-ignition valve.

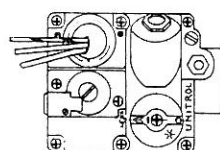
The above operations, are hereafter sketched:



Position closed



Pilot flame lighted
(as described at point 3)

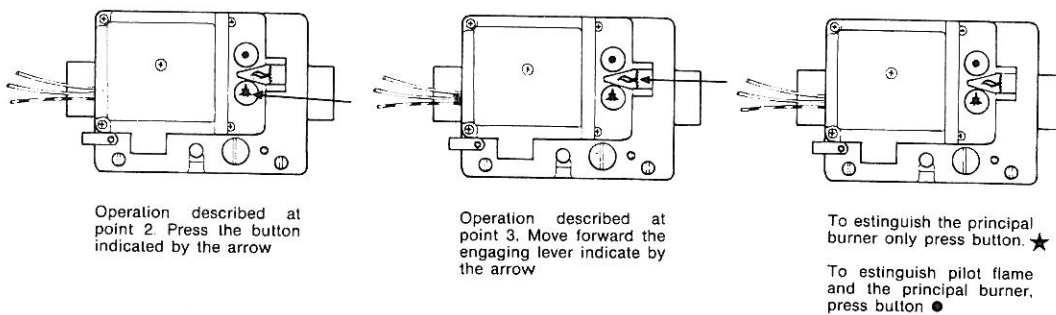


Open position
(as described at point 4)

In case the valve is «ELETTROSIT», operate as follows:

- 1°) Open the gas tap.
- 2°) Press the button ★. At the same time press the button of the igniter. Keep this button pressed down for 20 second, than leave it slowly. If the pilot flame does not remain lighted, repeat the operation.
- 3°) Move the engaging lever towards the valve body.
- 4°) Give voltage by means of the principal switch and of the little one (5 Plate 1) wich is on the electric panel.

The above operations, are hereafter sketched:



To extinguish only the principal burner leaving the pilot flame lighted, press completely the button ★

To extinguish the principal burner and the pilot flame, press completely the button ●.

All boilers are equipped with two thermostats:
one for work and one for safety.

The work thermostat:

Already adjusted during the factory testing, has a function of extinguish automatically the burner leaving the pilot flame lighted and light it again when the water circuit has cooled down some degrees.

The safety thermostat:

This thermostat which has already been adjusted during the factory-test, has never to be touched.

Its function is to extinguish the burner in case the work thermostat is damaged or fails to intervene and thus the circuit temperature goes over the safety limits.

To light again the burner, press the relevant re-load button (where existing).

Before this operation, it is necessary to look out for the causes of the safety thermostat intervention which is signalled by the lighting of the orange warning-lamp (21).

The thermometer (29) indicates the inside boiler temperature. The injector (13) diameters and the pressure, vary according to the type of gas.

On the boiler having two gas-valves and thus with two burners, the above operations have to be done first on one valve and after on the other one.

Each valve is independent and feeds only one burner.

Whilst the work and safety thermostats, act at the same time on both valves.

When the boiler is working, start the pasteurization as follows, (plate 1):

- 1) Pour into one pasteurizer all the liquid ingredients of the mix to be pasteurized.
- 2) Turn the switch (on the electric station) with the pasteurizer symbol for starting the stirrer. The stirrer shall run during the whole cycle: we can stop it only when the mix has dropped to such a low level that the propeller runs idle.
- 3) Complete the mix with the remaining ingredients.
- 4) By means of relevant switch on control station start the hot water pump (10). Check the pump for running in the direction of the arrow.
- 5) Turn the knob of the 3 ways valve (11) so allowing the water heated by the boiler to circulate in the circuit of the pasteurizer in operation.

When the mix has reached 80°/85°C (176°/185°F.) turn the knob of the valve (11) so that the hot water will flow into the circuit of the other pasteurizer which, in the meantime, has been prepared for the next pasteurization.

The thermometer (7) located on the top of the pasteurizer, reads the temperature of the mix.

While the pasteurizer is heating the mix, start the pump and the chilled water tank compressor (switch 22), so that, when the mix will reach the heat exchanger, the water is already at the right temperature +1/+2°C. (33,8/35,6°F.).

Once the pasteurization is effected, the mix shall continue its cycle as follows:

- A) Partially open the cock (27) so that the mains water lubricate the homogenizer pistons with a regular but not excessive flow.
- B) Open the cock to let the water reach the plates of the heat exchanger.
- C) Open the pasteurizer cock so that the mix, pushed by the pump (28) reaches the homogenizer.
- D) Turn on the relevant switch on the electric station (2) to start the mix pump (14).
- E) Turn on the relevant switch on the electric station (2) to start the homogenizer.
- F) When the mix reaches the homogenizer, we must discharge completely the air from the machine-head, opening for some minutes the valve (16) then, after having closed it (16) begin to increase the pressure by means of handwheel (19) to reach the desired pressure.
 The normal homogenizing pressure is 120/150 ATM approx.
 When working with abrasive products (for instance chocolate mix) the homogenizer pressure has to be duly reduced down to 100/120 ATM.
 The pressure gauge (18) reads the operating pressure.
 Once homogenizing is over, the mix is fed to the plates heat exchanger (1) where it is cooled.
 For the homogenizer see also the following pages.
- G) When the mix starts coming out from the heat exchanger, open the cock located on the water control station, so that the chilled water begins to circulate into the second stage of the plate heat exchanger.

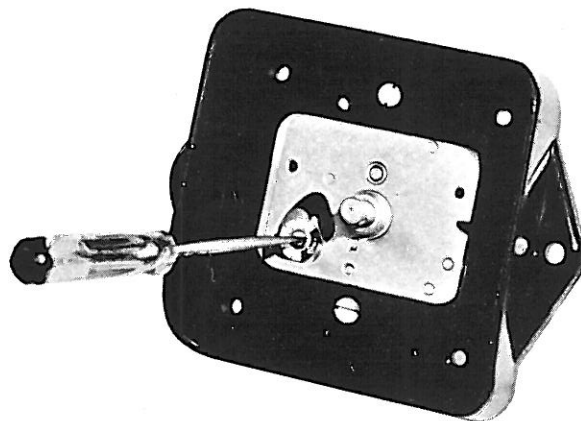
Attention! In case for any reason during the work the homogenizer must be stopped, close immediately the water of the plates heat exchanger.

After cooling, the mix is fed to the ageing vats.

NOTE — The electric control station of the plant is equipped with protection safety switches with adjustable thermal-relays which, in case of overload, cut-off the power from the motors.
To set these switches, we must remove the front key and the black mask from the front of the switch, then with a screwdriver on the adjusting screw (as shown in the figure) set the thermal relay according to the motor rating.

It is clear that such an operation has to be carried out by an electrician familiar with the motor absorption who can adjust correctly the motor-protection.

If the overload thermal relay is adjusted too low, it does not remained inserted and thus the motor will frequently stop, while, if the adjustment is to high, the motor is no more protected.



The basic concept of this machine is that of a multiple piston pump for high pressures.

Each piston has two ball or else mushroom type valves, one for sucking, the other for compression.

The homogenizer valves must be thoroughly clean and the seats efficient. If the valves are dirty, they do not operate and the homogenizer efficiency drops noticeably.

If the pressure-gauge (18) oscillates irregularly and the rate of flow is less than normal, discharge the air by means of valve (16). If the fault persists, stop the machine and check that valves are duly clean and their seats efficient.

During these operations, the handwheel which controls the pressure has to be completely released and the machine has to work at low pressure.

The homogenizer pressure has to be increased gradually by handwheel (19) to reach the desired figure, only after having completely discharged the air from the head of the machine and when the unit has reached the working temperature.

The machine is usually supplied with the sump full of lubricating oil.

Anyway, before starting the homogenizer, check:

- 1) The oil-level through the relevant peephole situated on the left-hand side of the machine, and, if necessary, add some. Use oil SAE 15 W 50 FOR ALL THE HOMOGENIZERS. Only for Homogenizer 150 Lt/h. the type of oil to be used is SAE 90.

The first oil has to be completely replaced after 300 hours of work approx.

The following oil replacements can be made after every 1500/2000 hour of operation.

To replace the oil, remove the rear panel of the homogenizer, release the two upper knobs and lift the cover.

Take off the drain plug located underneath the mechanical part and let the old oil flow out.

Then put back in its place the drain plug and pour in the new oil through the top charge plug.

- 2) Direction of rotation. Remove the rear panel and check if the direction of rotation is the same as the arrow. Anyway, looking frontally at the pulley, the rotation must be clockwise.
- 3) Check the cooling water for the pistons to come out from the relevant nozzles and that the pistons are duly lubricated.

In the center of the electric control station (2-Plate 1) the ammeter (20) is inserted on one phase feeding the homogenizer motor.

The instrument can replace the pressure-gauge (18) when this latter is defective, being the Ampère motor absorption proportional to the homogenizer pressure.

To use correctly the ammeter (20-Plate 1) it is advisable to check the ampère absorption at the different pressures read by the pressure gauge (18); this during the initial cycles of the plant.

On 250-500-1000-2000 lt/h. homogenizers, the valve seats are interchangeable; this means that, when they are worn, they can be removed and replaced by new ones. To be noted that, if the valves are of the ball type, the worn seats, before being replaced, can also be turned upside down.

In order to avoid damage to the machine parts, the intervention on any homogenizer must be executed by qualified personnel: in any case see carefully the relevant exploded layouts on plates 9-10-11-12.

Attention! Check carefully the sense of rotation of the motor. If the homogenizer motor turns in the wrong direction, the machine is not lubricated and therefore may result damaged.

N.B.: Each homogenizer is supplied with a complete spare stock (located under the top cover) made up by various pieces: Gaskets - homogenizing head - valves - different wrenches and one tool of different shape according to the homogenizer capacity to be used for removing valve-seats (plate 8).

CHILLED WATER TANK PLATE 7

Each chilled tank is complete with an autonomous refrigerating system of HP. 5-7,5-15-30 condensed by water, according to the plant dimensions and to number of ageing vats to be cooled.

The chilled water tank is complete with a thermostat allowing to adjust the circulating water temperature and with a complete electric system ready to be connected to the mains.

The thermostat is to be adjusted so that water temperature is never too close to 0°C. (32°F.).

In fact, if the thermostat has been adjusted to a too low temperature, the evaporating plates get covered with frost, hindering the thermal exchange between water and plates, and reducing noticeably the efficiency of the chilled water tank.

Therefore, when noticing a reduction of the chilled water tank efficiency, check carefully, first of all, that the internal plates are not covered with frost.

In case we note frost formation on the plates, increase immediately the temperature by means of thermostat (4) and wait until all frost is removed from the plates; then begin to adjust the thermostat, until the circulating water reaches +1/+2°C. (33,8/35,6°F.).

Check periodically that the water level into the tank keeps at about 10 cm. over the evaporating plates.

The cooling water tank is complete with one two-releases switch (22-Plate 1); on the first release the water pump is started, on the second one the motorcompressor is started. There is also an electrical block system which does not allow the motorcompressor to operate when the pump is not running.

Both the pump and the motorcompressor are protected from overloads by means of the relevant motor-protectors situated in the electric control station (9).

Furthermore, for the protection of the motorcompressor, there is a double pressostat (10) with a double function:

- first, stop the compressor in case there is no water circulating into the condenser;
- second, stop the compressor in case vacuum is created in sucking section of gas circuit.

Attention! The abnormal dilation caused by an excessive accumulation of frost on the evaporating plates, can damage seriously the plates themselves.

PLANT WASHING

Once the production is finished, fill half the pasteurizers with water then heat them (one at a time) to reach water temperature of 60°C. (140°F.) approx. Start the pump (14-Plate 1) and homogenizer (without giving pressure) for some minutes and let the water circulate through the whole plant.

This operation eliminates the bigger production residuals from the piping and from the heat exchanger plates.

To obtain a more rational and efficient washing, it is necessary to let water circulate by means of a centrifugal pump having adequate capacity and head.

Example: « MARK washing tub with built-in pump », by means of suitable detergent and disinfectant, shall restore the most important hygienical conditions for an ice-cream plant.

The features of this pump, are:

- 6000 lt/h. about
- head: 3 ATE about.

For the percentage of disinfectant and detergent to be added to water, you can obtain the relevant information from a Company specialized in Dairy Plants.

In any case the products to be used for washing and disinfection, shall not be corrosive for the mechanical parts.

In order to have a more accurate cleaning, during the washing operation, dismantle the single parts which are in contact with the mix.

Attention! Bear in mind that the heat-exchanger plates are progressively numbered and thus they have to be reassembled following said numbering; this will avoid any interruption in the inner circuits.

Always bear in mind that, a periodical check of the different parts of the plant, can avoid long down times and sudden stops of production.

The only point requiring some attention, is the refrigerating system of the chilled water tank (plate 7).

This one is a refrigerating plant with a rather simple scheme, with a semi-hermetic motor-compressor group, condensed by water and complete with liquid receiver-condenser (5) regulating water valve (3) and expansion valve (6).

The evaporator is made up by pressed circuit plates, immersed into chilled water tank.

For a correct operation of the refrigerating group, check taht:

- 1) Water regulating valve (3) is duly adjusted. To set this valve, adjust screw (or cap) located on the valve top. If valve (3) is correctly set, the water coming out from the drain tube, while commpressor running, must have a temperature of $+30^{\circ}/35^{\circ}\text{C}$. ($86/95^{\circ}\text{F}$.).
In case we are using water coming from a cooling tower, open completely valve (3) or take it off.
- 2) Themostatic valve (6) is correctly adjusted. The thermostatic valve regulation has to be done so that a thermo-pressure-gauge inserted on the sucking line, reads $-5/-10^{\circ}\text{C}$. ($23/14^{\circ}\text{F}$.) and when, the pump's running, the water temperature reaches $+1/+2^{\circ}\text{C}$.
- 3) Filter (7) is not clogged. Wehen line filter (7) is clogged, it gets covered with frost; then it is necessary to have it replaced.
Anyway it must always be replaced whenever the refrigeration circuit is opened.

- 4) The gas charge into the circuit is not insufficient.
In case we ascertain that the gas into the refrigerating circuit is insufficient, before adding further gas, look out for the causes which caused the gas leak.

In any case, the refrigerating system has to be checked by a skilled refrigerating engineer.

If not absolutely necessary, do not add gas into the circuit.

It is useless!

The refrigerating system does not operate with too much gas!

The pump (8) too must be kept efficient, therefore check it periodically.

It is a rather simple centrifugal pump to be checked by a qualified technician.

To make the check of the various lines of the plant easier, you will find herewith too, the water pipes plate (plates 4-5) and the electrical lines layout (plate 6).

When asking for spare parts, please indicate exclusively the plate and the number of the requested item, as mentioned in this brochure.

In view of the continuous technical development, measurements and data given in this catalogue are not binding and can be modified without notice.

PLATE 1

- 1) Plate type heat exchanger
- 2) Electric control station
- 3) General switch
- 4) Boiler warning lamp
- 5) Boiler starting switch
- 6) Pasteurizer
- 7) Thermometer
- 8) Stirrer-motor
- 9) Boiler
- 10) Hot water circulating pump
- 11) Three-way hot water valve
- 12) Gas pressure reduction unit
- 13) General water drain
- 14) Mix pump
- 15) Mix filter
- 16) Air discharge valve from homogenizer head
- 17) Homogenizer pistons drain water
- 18) Homogenizer pressure-gauge
- 19) Homogenizer pressure regulating handwheel
- 20) Ammeter
- 21) Chilled water tank
- 22) Chilled water tank switch
- 23) Electrical feed cable
- 24) Return tube from ageing vats
- 25) Return tube from heat exchanger
- 26) Chilled water delivery
- 27) Cock for lubrication water to homogenizer pistons
- 28) Homogenizer air discharging valve.

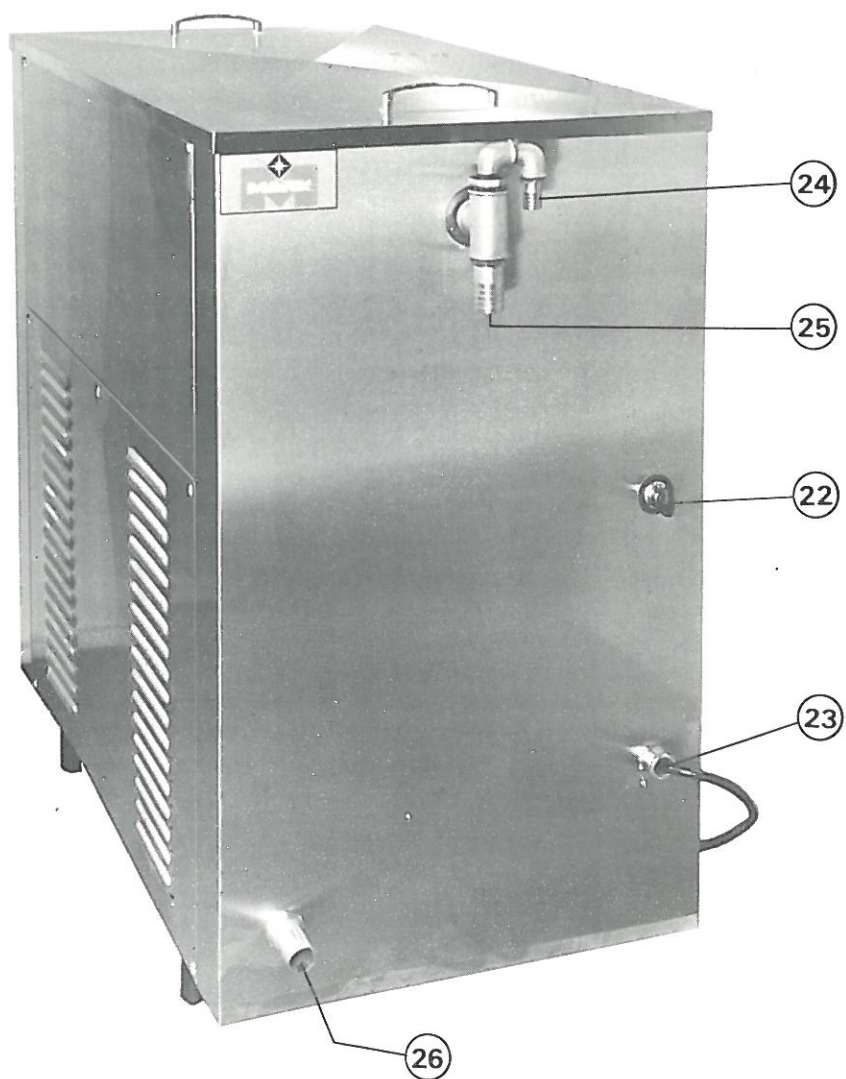
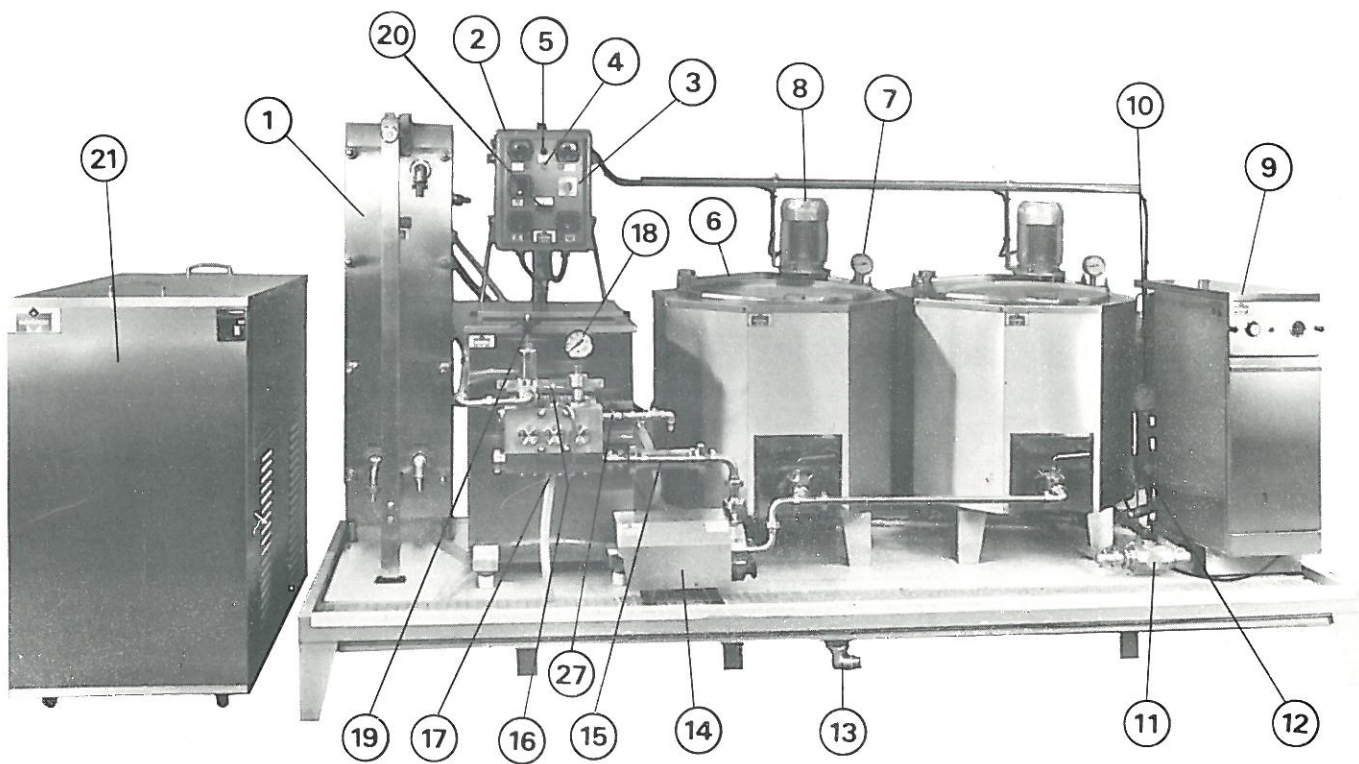
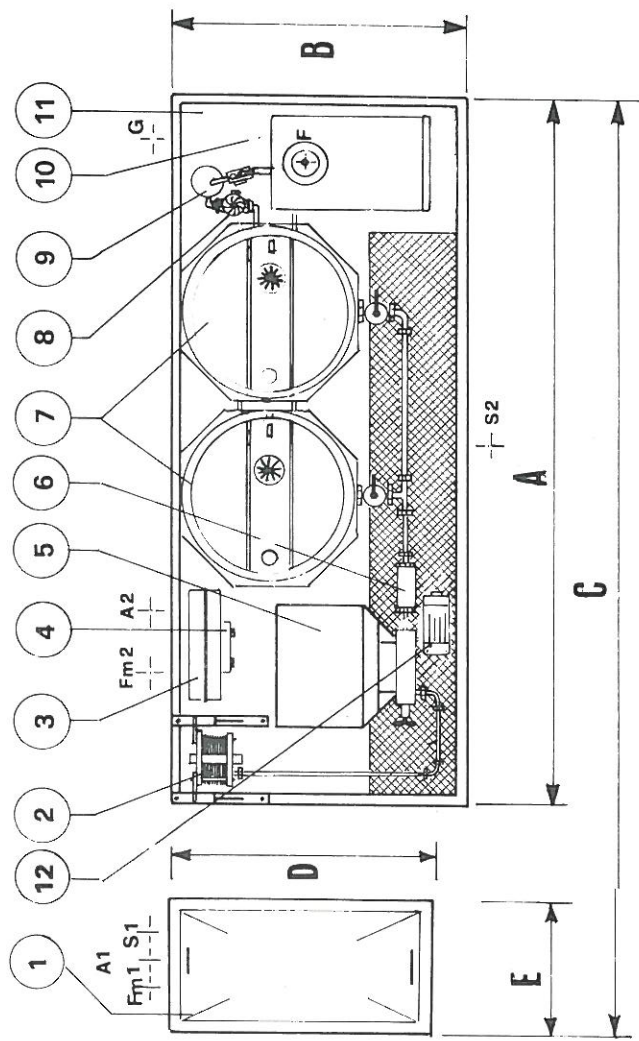


PLATE 2

- 1) Chilled water tank
- 2) Plate type heat exchanger
- 3) Electric control station
- 4) Union for network water inlet
- 5) Homogenizer
- 6) Mix filter
- 7) Pasteurizers
- 8) Hot water pump
- 9) Hot water expansion vessel
- 10) Boiler
- 11) Base coated with stainless steel
- 12) Mix pump



	150 Lt. 33 Gall.	250 Lt. 55 Gall.	500 Lt. 110 Gall.	1000 Lt. 220 Gall.	2000 Lt. 440 Gall.
A	3200 (10'6")	3600 (11'10")	3950 (13'0")	5000 (16'5")	6050 (19'10")
B	1200 (3'11")	1350 (4'5")	1500 (4'11")	1600 (5'3")	2100 (6'11")
C	4420 (14'6")	4820 (15'10")	5170 (17'0")	6220 (20'5")	7500 (24'7")
D	1330 (4'4")	1330 (4'4")	1330 (4'4")	1330 (4'4")	2150 (7'0")
E	720 (2'4")	720 (2'4")	720 (2'4")	720 (2'4")	950 (3'1")
A1	3/4"	3/4"	1"	1 1/4"	1 1/2"
A2	1/2"	3/4"	3/4"	1"	1 1/2"
S1	1/2"	3/4"	3/4"	1"	1 1/2"
S2	2"	2"	2"	2"	2"
Fm1	5 Kw	7 Kw	7 Kw	12.5 Kw	24 Kw.
Fm2	3.5 Kw	5.5 Kw	7.5 Kw	12 Kw	18 Kw.
G	1/2"	3/4"	1"	1 1/2"	2"
F	ø130 (5")	ø150 (6")	ø180 (7")	ø330 (13")	ø405 (15")
ΔT	1400 kg.	1700 kg.	2150 kg.	3400 kg.	5200 kg.

Arrivo Acqua	Water Supply	Wasserzuleitung	Alimentation Eau	Alimentacion Agua
" "	" "	" "	" "	" "
Scarico Acqua	Water Draining	Wasserauslauf	Ecoulement Eau	Descarga Agua
" "	" "	" "	" "	" "
Forza Motrice	Power Supply	Strom	Alimentation Electrique	Alimentacion Electrica
" "	" "	" "	" "	" "
Arrivo Gas	Gas Supply	Gaszuleitung	Alimentation Gaz	Linea Gas
Scarico Gas	Gas Exhaust	Gasablauf	Evacuation Gaz	Descarga Gas
Peso Netto	Nett Weight	Netto Gewicht	Poids Net	Peso Liquido
5200 kg.				

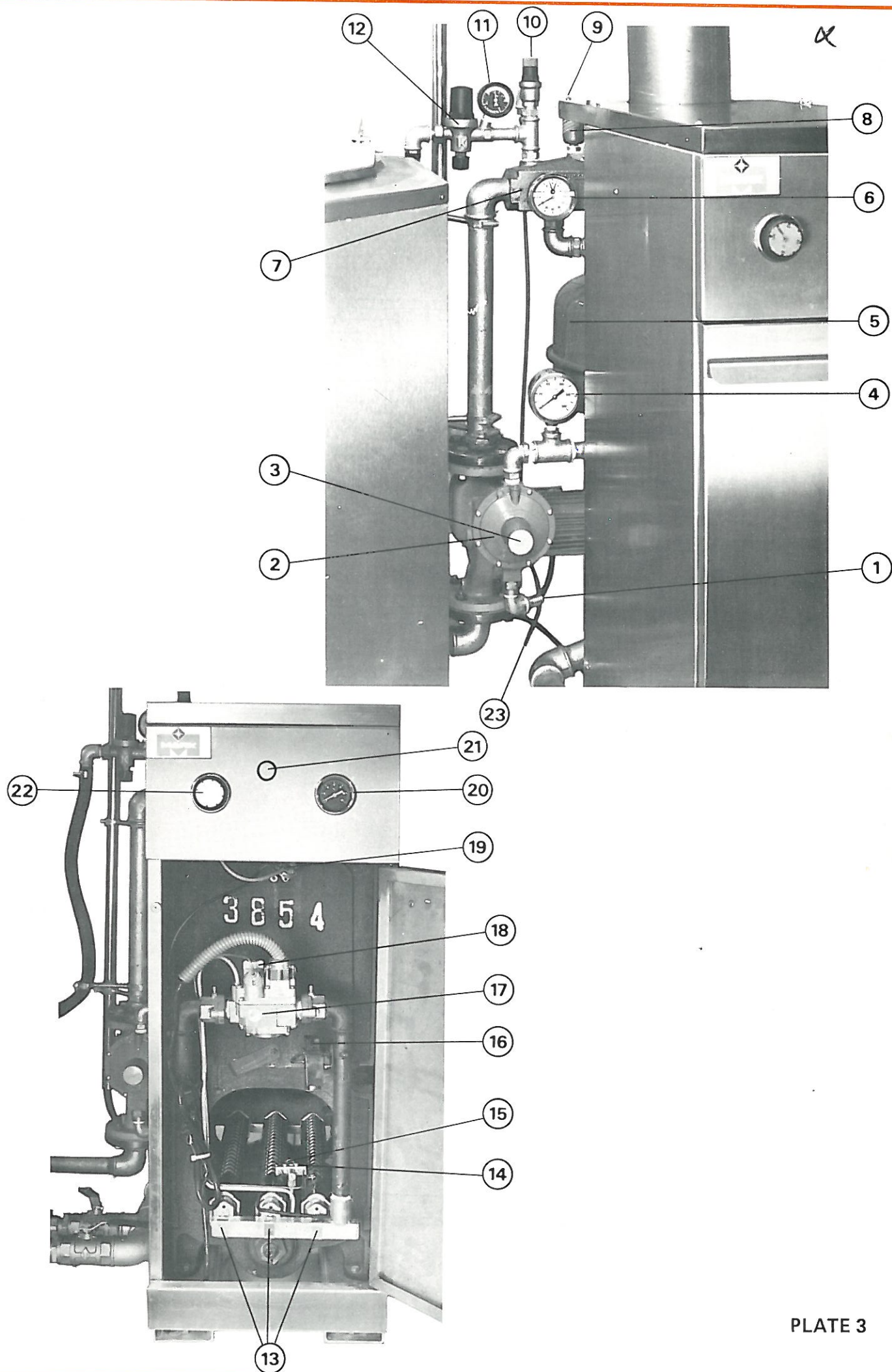
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PLATE 3

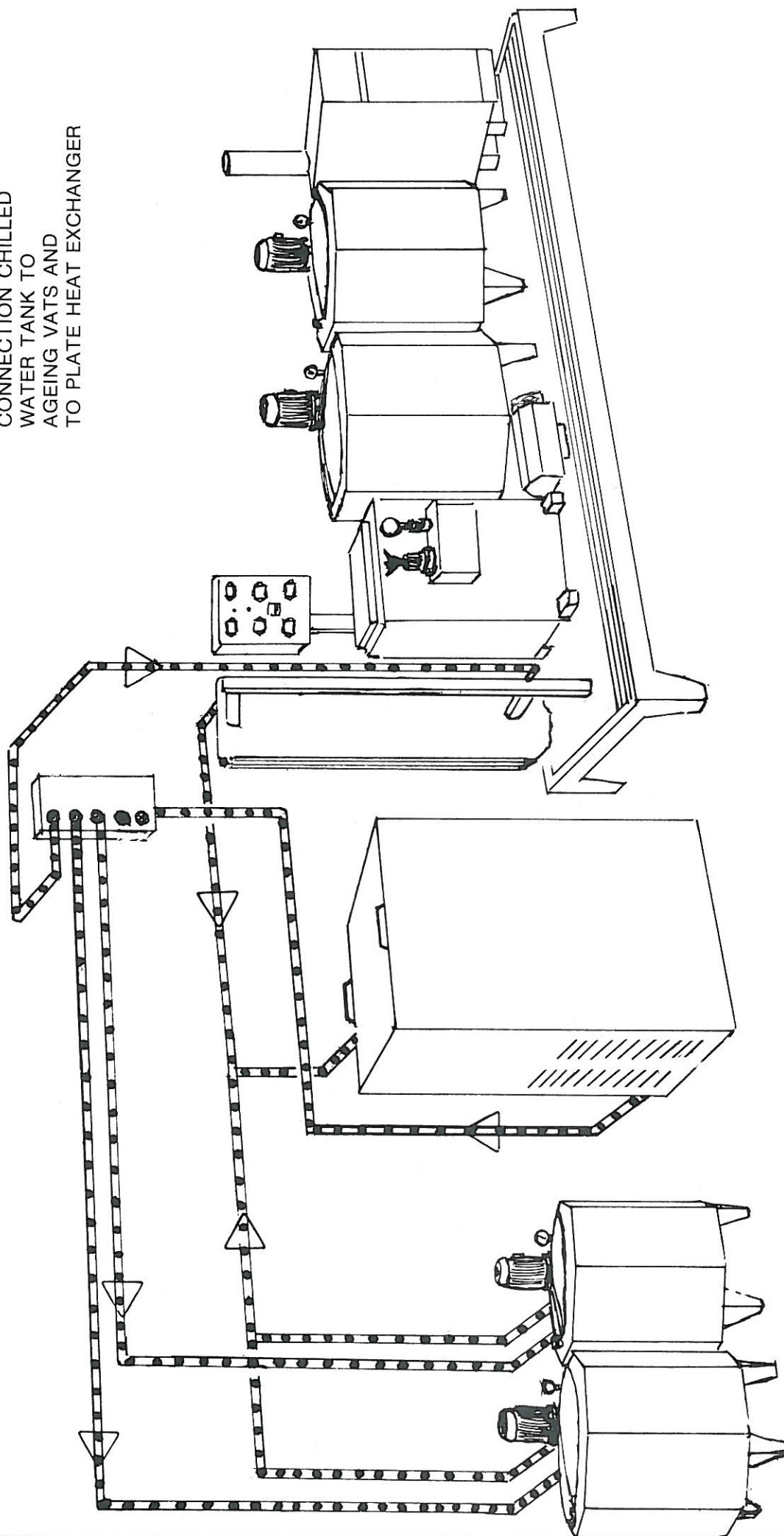
- 1) Gas inlet union
- 2) Pressure reduction unit
- 3) Screw-plug for adjusting pressure regulator
- 4) Gas pressure-gauge
- 5) Expansion vessel
- 6) Thermo-pressure gauge
- 7) Bleeder
- 8) Air outlet valve
- 9) Air outlet valve knurled cap
- 10) Safety valve
- 11) Pressure gauge for water
- 12) Pressure water reduction unit
- 13) Boiler nozzles
- 14) Thermo-couple
- 15) Pilot flame
- 16) Pilot flame igniter
- 17) Gas solenoid valve
- 18) Boiler ignition knob
- 19) Safety thermostat
- 20) Boiler thermometer
- 21) Safety thermostat pilot lamp
- 22) Work-thermostat
- 23) Safety-valve breather-pipe

THE POWER OF THE BOILERS, IS:

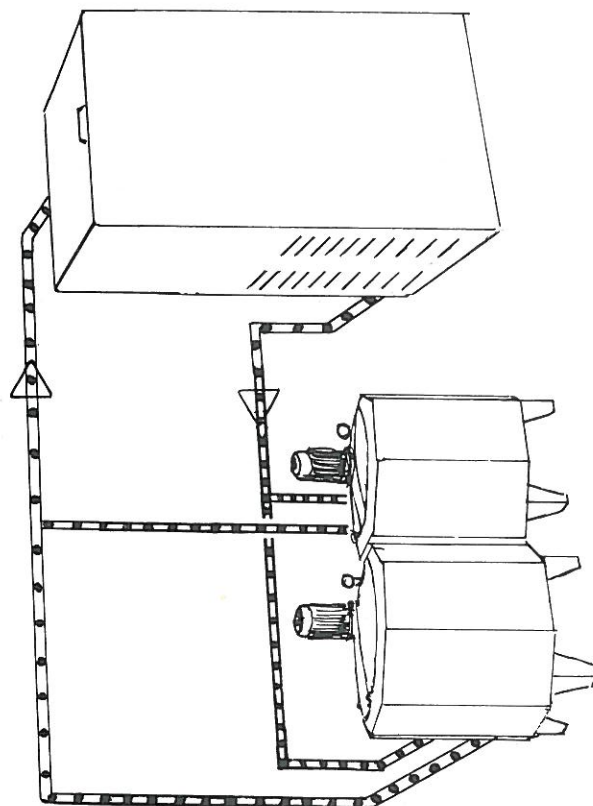
- 25.000 kal/h. for the installation of 150 lt/h.
- 30.000 kal/h. for the installation of 250 lt/h.
- 50.000 kal/h. for the installation of 500 lt/h.
- 100.000 kal/h. for the installation of 1.000 lt/h.
- 220.000 kal/h. for the installation of 2.000 lt/h.



CONNECTION CHILLED
WATER TANK TO
AGEING VATS AND
TO PLATE HEAT EXCHANGER



CONNECTION CHILLED
WATER TANK TO
AGEING VATS



CONNECTION CHILLED WATER
TANK TO PLATE
HEAT EXCHANGER

