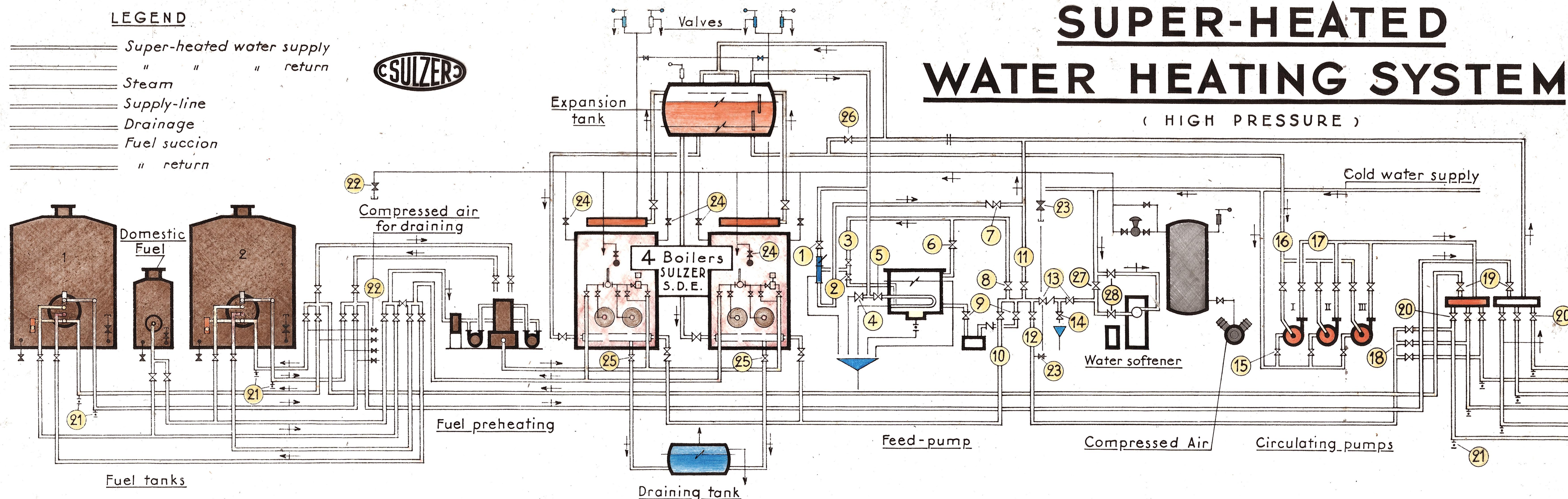


## LEGEND

- ===== Super-heated water supply
- ===== " " " return
- ===== Steam
- ===== Supply-line
- ===== Drainage
- ===== Fuel suction
- ===== " return



## Filling at cold start —

Shut off all drain-valves, in the heating plant and in the buildings. Shut off all the blow-down valves on the boilers (25).

Open the section valves of all supply mains and all pump and boiler valves.

Shut off (8) (9) (10) (11) (14). Open (12) (13) (18) (27) until the water raises to the inferior level marked on the expansion tank. Shut off then (12) (13) (17) (27) and open (14). It is recommended to fill each circuit line separately.

During this operation, vent the air in the pipes thru the air vent-valves located at all the upper-points of the installation.

## Starting operation —

Utilize the pumps I or II each one and alternately during a week. Pump III (heating plant south) will be operating during summer-time in lieu of the pumps I or II. Suction valve (16) must stay open. Valve (17) on the pressure side being shut off open the stuffing-box cooling valve (15).

Start the pump to be put in operation and open slowly (17). Start the draft fan, then the burners on only one boiler, and in strict conformity with the operation and maintenance instructions of PILLARD the burner manufacturer. Start with domestic fuel.

Verify that the water-level in the expansion tank remains visible, if not fill up.

The first heat produced must be only used to preheat the heavy fuel all valves (20) being shut off and the valves (19) being open.

As soon the burners are operating on heavy fuel (see PILLARD instructions) shift to normal operation by opening at least the supply valve of one heating line and eventually start the other boilers.

The valve (26) is adjusted once for all by the contractor and will never be operated any more.

Pumps — With valve (15) limit at 50°C. the temperature of stuffing-box cooling water.

**DREUX AIR BASE**  
**SOUTHERN BOILER ROOM**

**Important —** Before stopping, operate the burners with domestic fuel, during 10 minutes, to avoid further difficulties by the next start. (Congealing of fuel in the pipes).

## Water treatment —

Test every week the acidity of the water (pH) by means of the special paper PROLABO N° 35.255, which must turn purple red = 10.

If this figure is not obtained, add trisodium phosphate thru the return tank and feed as additional water in the system.

The pH can be tested at any drain-valve of the system.

## Additional filling —

Only the initial filling will be made with cold water. The additional water must always be heated and pumped into the system by the circulating pump. Fill the feed tank, the valves (6) (8) (13) (23) being open, all other valves are shut off. As soon the feed tank is filled up, shut off the valves (6) (8) (13) (23) and open (14). Heat water up to 70°C. the valves (5) open and (4) shut off. Pump this water into the system: the valves (9) (11) open.

If the feed pump does not work, use the feed injector. Shut off (9) and open (1) (2) (7). In this case, heat the feed water up to 30°C. only. It is recommended to use the feed injector once a week in order to maintain it in working order.

Use the water-softener in conformity with the notice of the manufacturer DEGEMONT.

## Degassing —

It is absolutely necessary to insure a constantly degassing of the steam contained in the expansion tank, either by heating up the water in the feed tank valve (5) open and valve (4) shut off; or by letting steam escape thru valve (4) valve (5) being shut off.

## Draining —

Open all drain valves located on the lower parts of the system, so also all air-vent valves. Drain the boilers thru the blow-down valves (25). Never forget to drain the low points of the distribution system.

For draining one system thoroughly it is necessary to blow compressed air through the system, the valves (20) and (12) of said system being shut off, the valves (18) and (23) open.

Drain periodically the water collect in the ground of fuel-tanks.

# SUPER-HEATED WATER HEATING SYSTEM

( HIGH PRESSURE )

## Danger of freezing —

Heating system must be kept operating by exterior temperatures below 0° centigrade.

In case of shutting off the heating, during frost time, drain thoroughly the system.

If one of the two heavy fuel reservoirs (heating plant south) is not heated, it is absolutely necessary to drain its heating circuit, by blowing compressed air thru the pipes, valves (22). Shut off the section valves in the supply line leading to the said tank.

## Blow-off —

**During operation —** The tube-sections must be blown off, at least four time a day. The blowing is made by compressed air through DALMAR soot blowers the valves (24) open.

The blowers and the ramps must be utilized one after the other so the compressor can keep its operating pressure (min. 5 "Pz").

**Boiler stopped —** Verify the cleanness of the tube sections by entering in the boiler. Remove completely all soot deposits.

**Important —** This operation is to be done every 3 month.

## Maintenance —

Verify periodically the smoke stacks and conducts. Verify fan time to time the interior of the draft-fan, and make sure it is clean. Lubricate the bearings with special grease for high temperature operating.

The stuffing-box of the circulating pump must give possibility of letting filtrate one drop of water every second. The oil in the pump bearings must be kept above the upper level mark.

Lubricate periodically the motors of the pumps and fans. For the maintenance of the burners and the pumps see special manufacturer instructions.

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