Delimara Power Station is located in the South East of the Island, in Marsaxlokk bay, close to Delimara Point. The station is partially built on excavated land and partially on reclaimed land, and construction was started in 1989. It was initially commissioned in 1992 with two 60MW conventional steam boilers and turbines. Following this, two 37.5 MW open cycle gas turbines were commissioned in 1995, and finally a 115MW combined cycle plant was commissioned in 1999. The total station generating capacity is 310MW, and the station typically provides half of the total electricity generated in Malta (2005 estimated total annual load of 2,250,000MWhrs). It is connected to the national distribution network through 132kV and 33kV links (cables). The conventional steam plant is fired by HFO (1% S), whilst the gas turbines are fuelled with diesel (0.2% S), and the station has storage capacity for HFO of 50,000m3 and Diesel of 32,000m3. Fuel is delivered by seagoing tankers at a dedicated quay built at the station.

12 energy saving tips

Turn off everything not in use: lights, TVs, computers, etc.

Check your air conditioner filter each month. Dirty filters block air flow through your heating and cooling systems, increasing energy use.

Activate 'sleep' features on computers and office equipment that power down when not in use for a while. Turn off equipment during longer periods of non-use.

Dress appropriately for the weather, and set your thermostat to the lowest possible comfortable setting. On winter nights, put an extra blanket on the bed and turn down your thermostat.

In summer, use fans whenever possible instead of air conditioning . Using fans to supplement air conditioning allows you to raise the thermostat temperature, using less energy. Fans use less energy than air conditioning.

Switch to cold water washing of laundry. Use detergent formulated for cold water to get clothes just as clean.

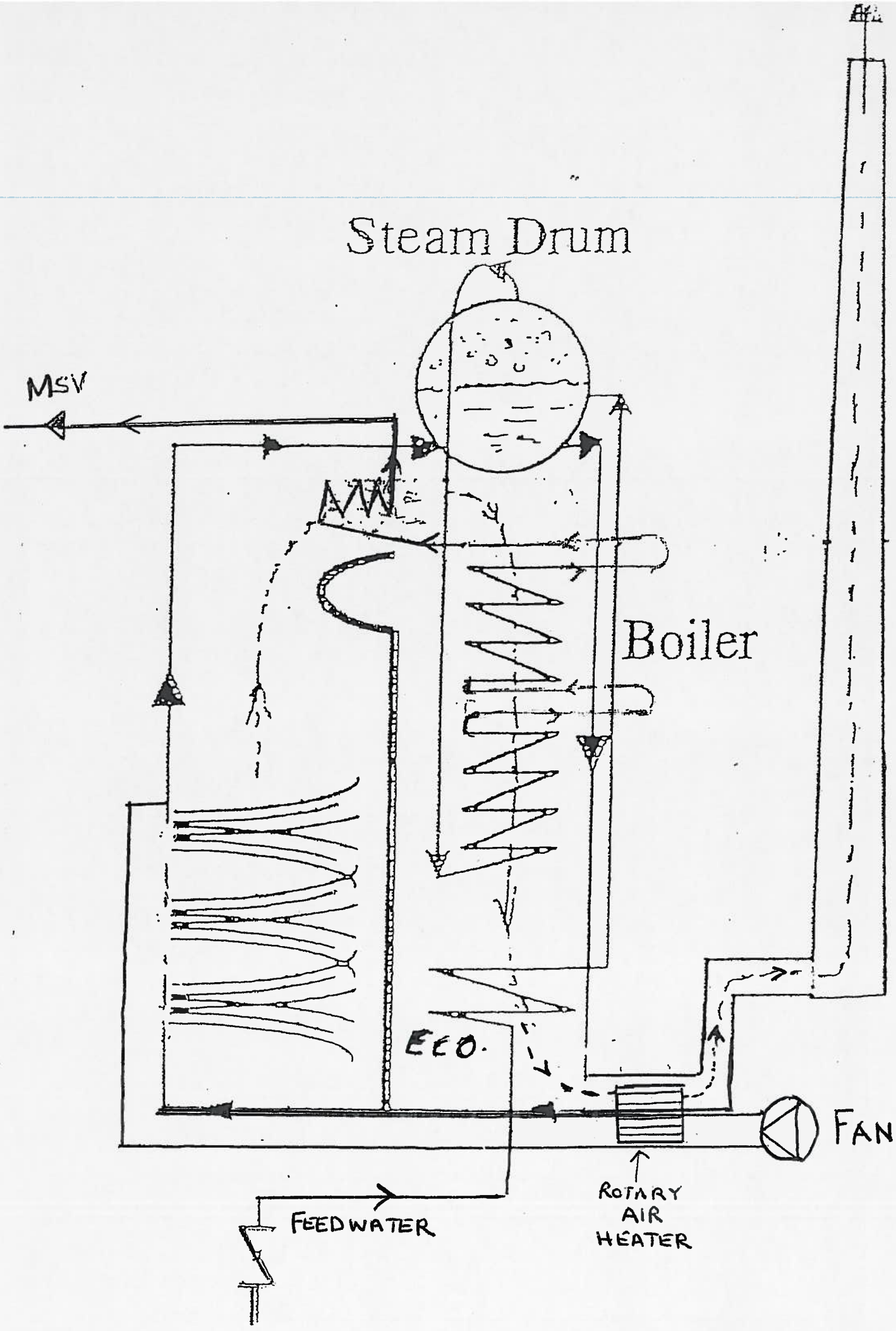
Seal your windows and doors to ensure that you're not wasting energy on heat or air conditioning that escapes through leaks to the outdoors.

About 15% of an average home energy bill goes to heating water. To save hot water, take five-minute showers instead of baths. Do only full loads when using the clothes washer or dishwasher. Lower the temperature on your water heater so that you are not having to add cold water to shower.

Look for energy efficiency labels when buying new products such as TVs, cell phones, refrigerators and air conditioners.

Only heat or cool the rooms you need. Close vents and doors of unused rooms.

Replace your five most used light bulbs with energy-saving bulbs. These light bulbs use two-thirds less energy and last up to 10 times longer.


Steam Drum
MSV
Boiler
ECO.
FAN
FEEDWATER
ROTARY
AIR
HEATER

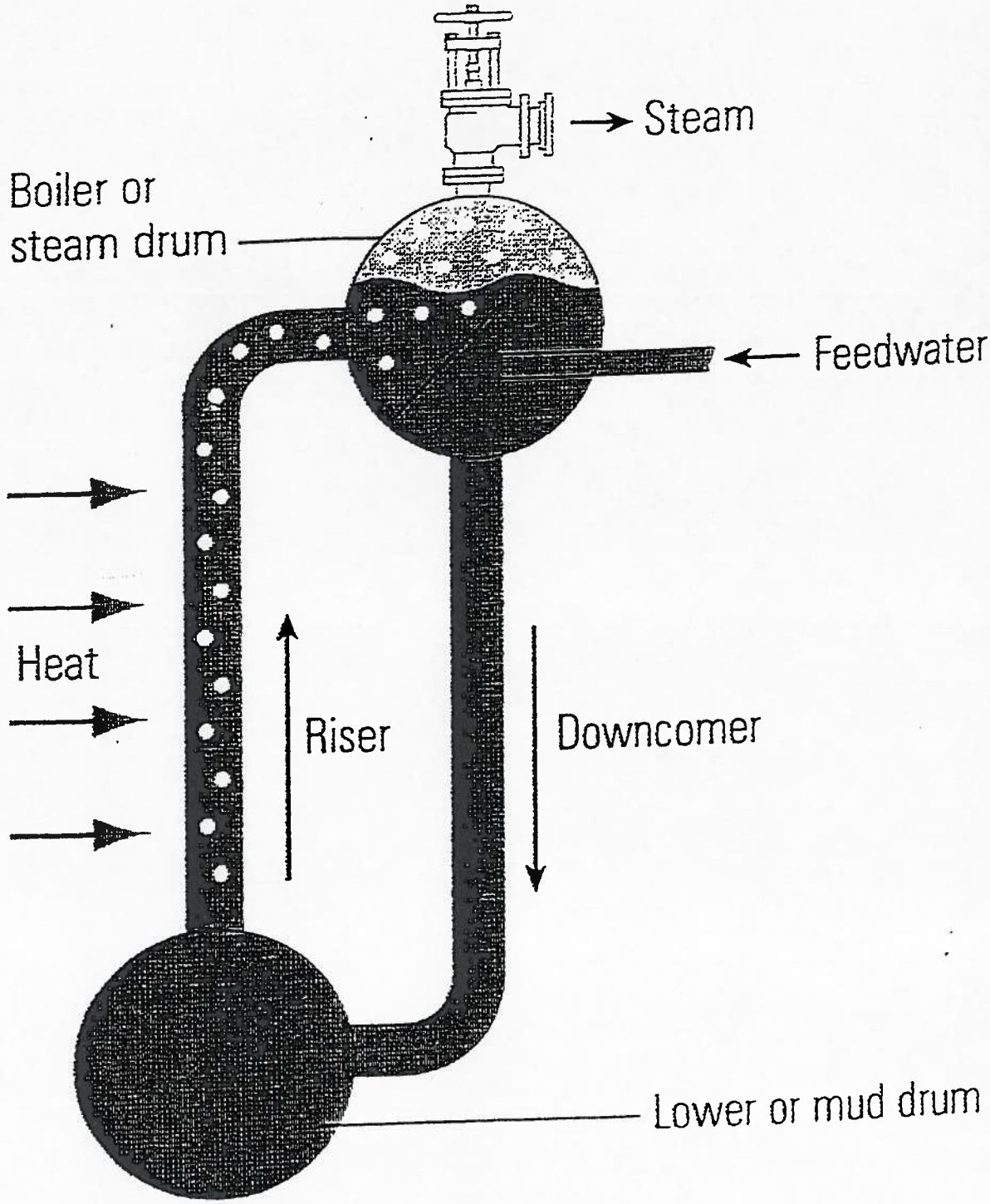
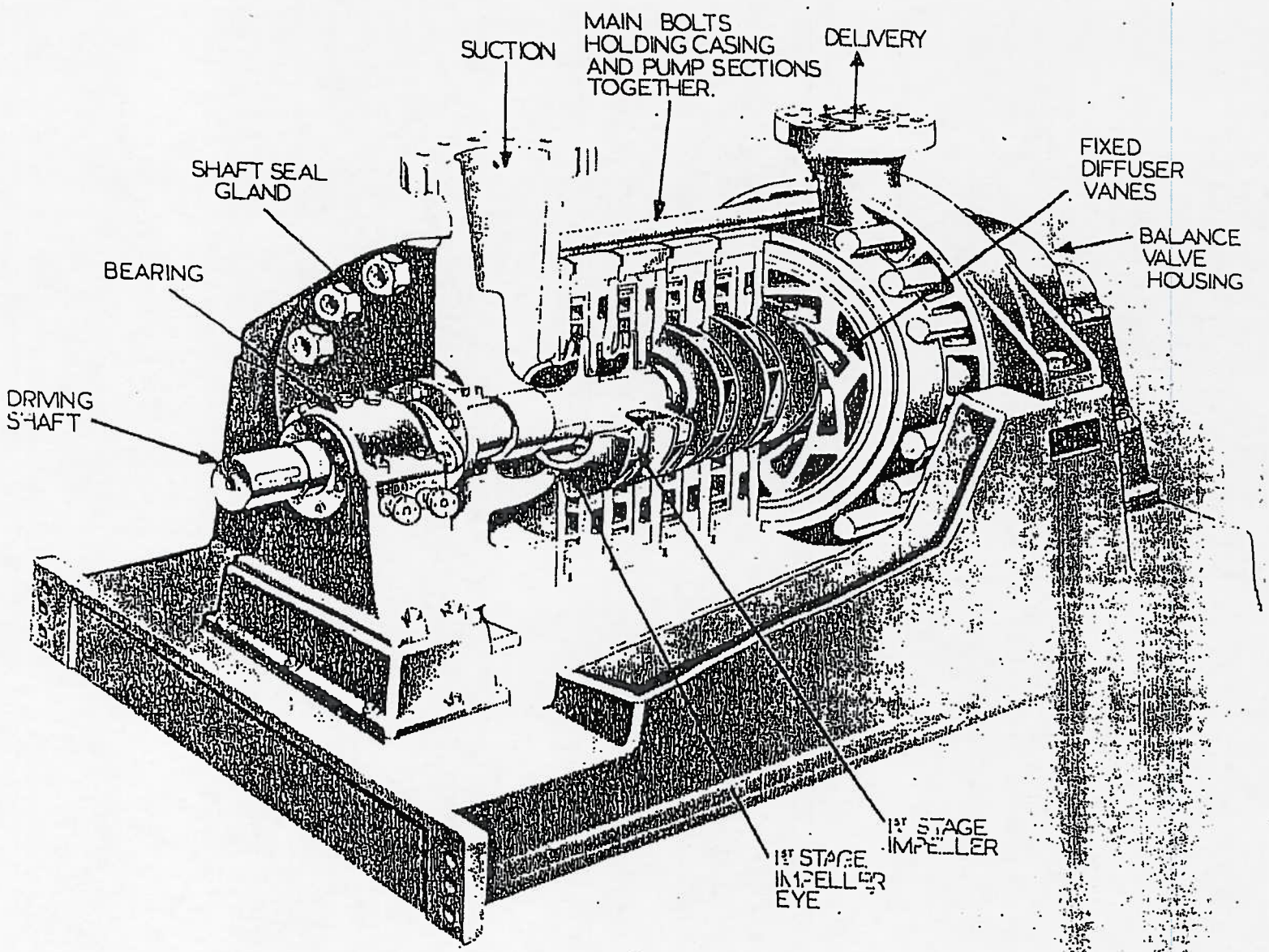


Fig.

Natural water circulation in a water-tube boiler



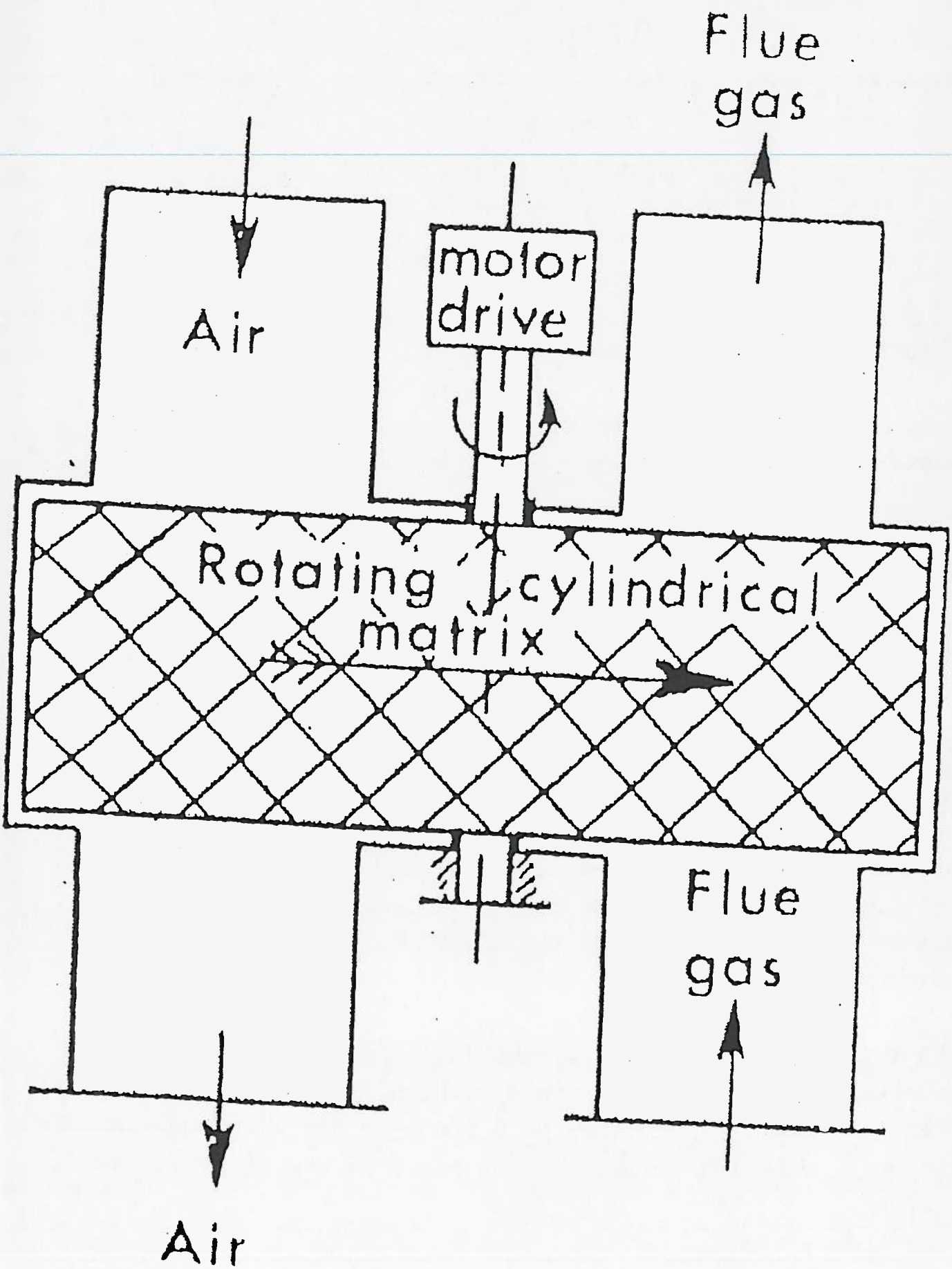
BOILER FEED PUMP

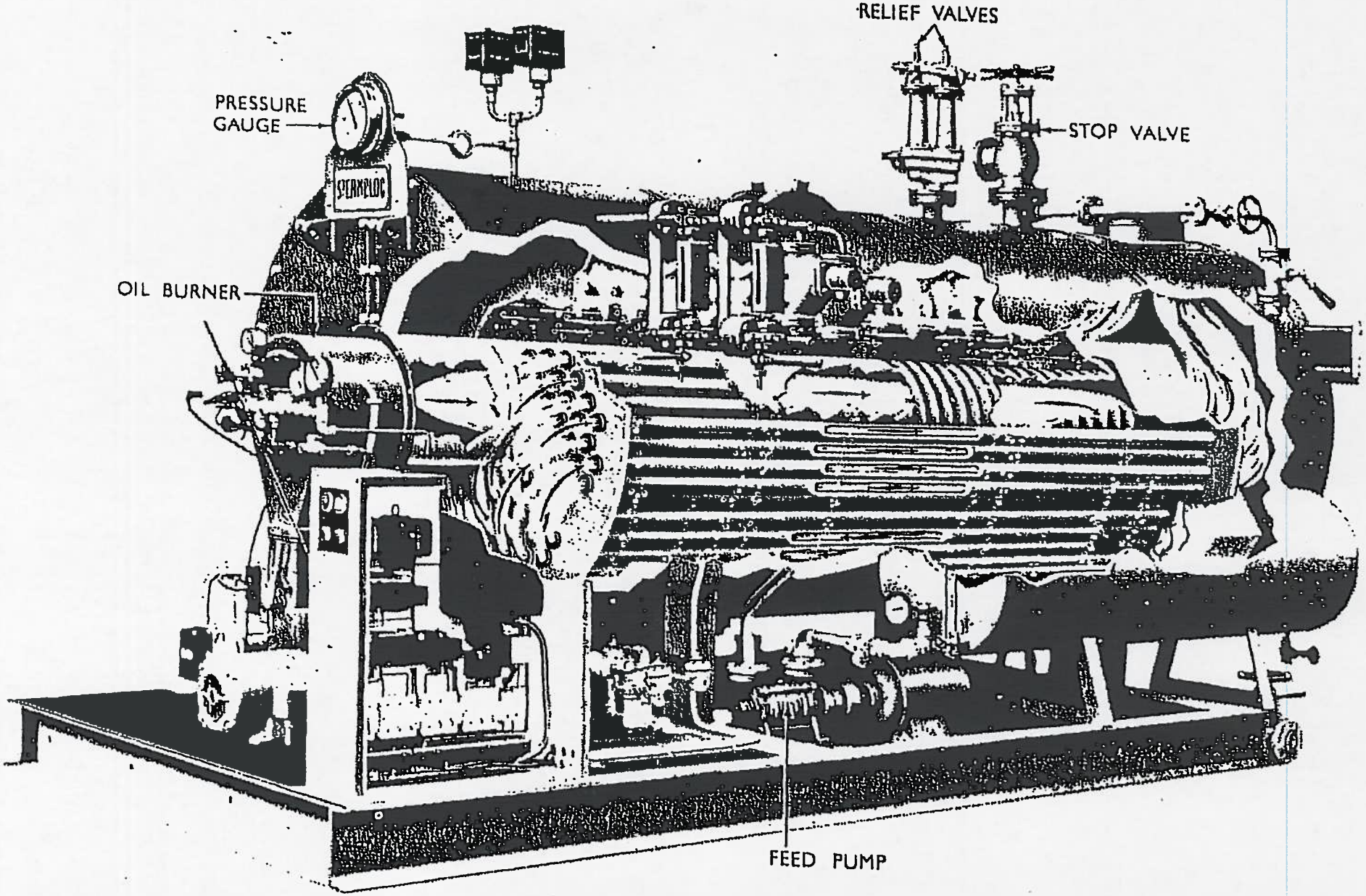
ELECTROSTATIC PRECIPITATOR

This apparatus cleans gases by using electrical forces to remove solid or liquid particles carried out in the gas stream.

The boiler exhaust gases are passed through an intense electrical field set up between electrodes of opposite polarity. The discharge electrodes (so called because of the corona discharge which results from the application of high voltage) impart a negative charge to the particles. These particles are then attached to the collector electrodes which are positive with respect to the discharge electrodes which are positive with respect to the discharge electrodes and in practice are connected to earth,

The dust particles then built up in a layer on the earthed collector until a mechanical rapping system dislodges and breaks up the layer into large agglomerates which are heavy enough to fall out of the gas stream.


Flue
gas
motor
drive
Air
Rotating cylindrical
matrix
Flue
gas
Air


RELIEF VALVES
PRESSURE GAUGE
STOP VALVE
OIL BURNER
FEED PUMP

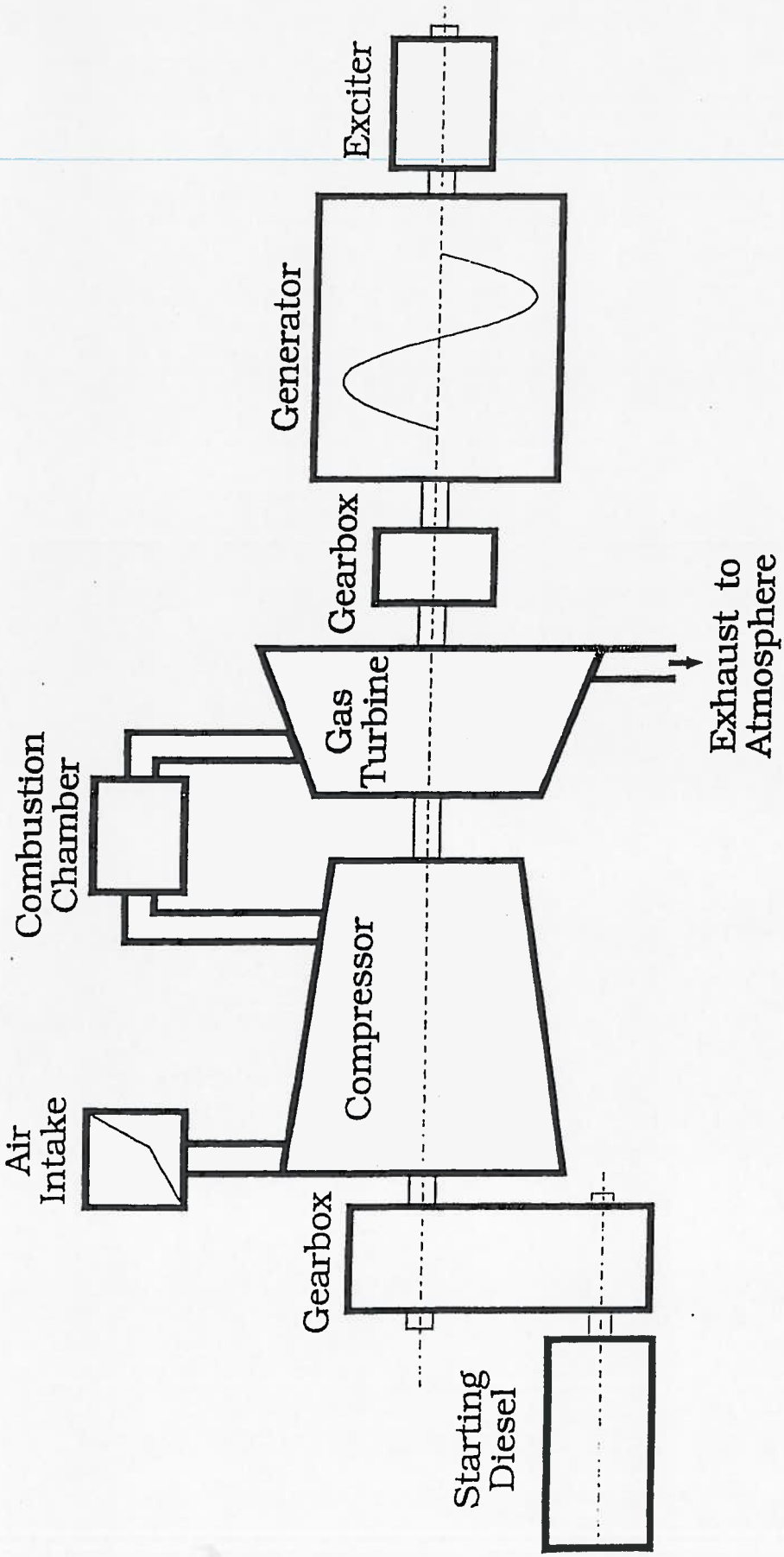
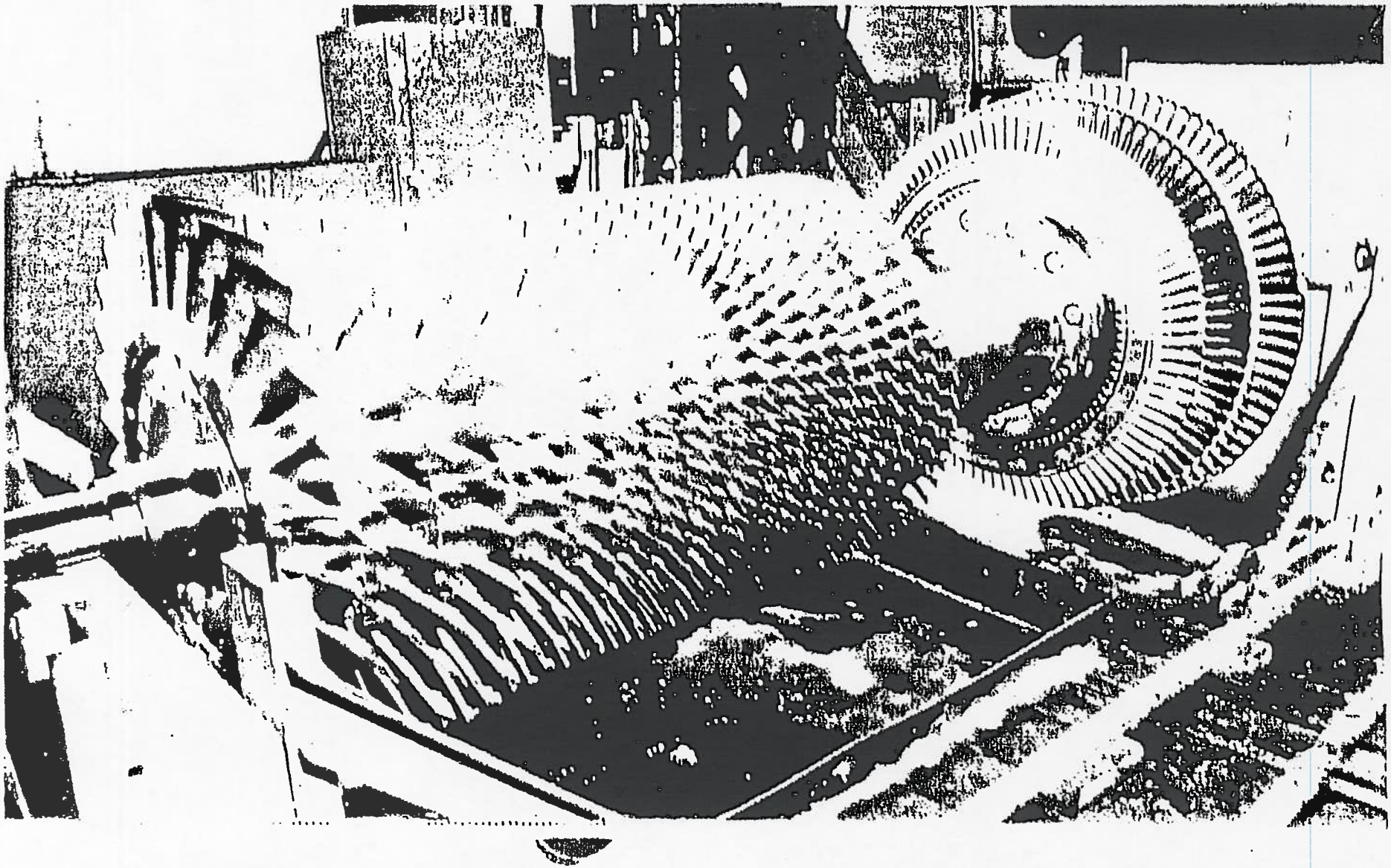


Fig. Gas Turbine & Generator - Simplified Schematic.



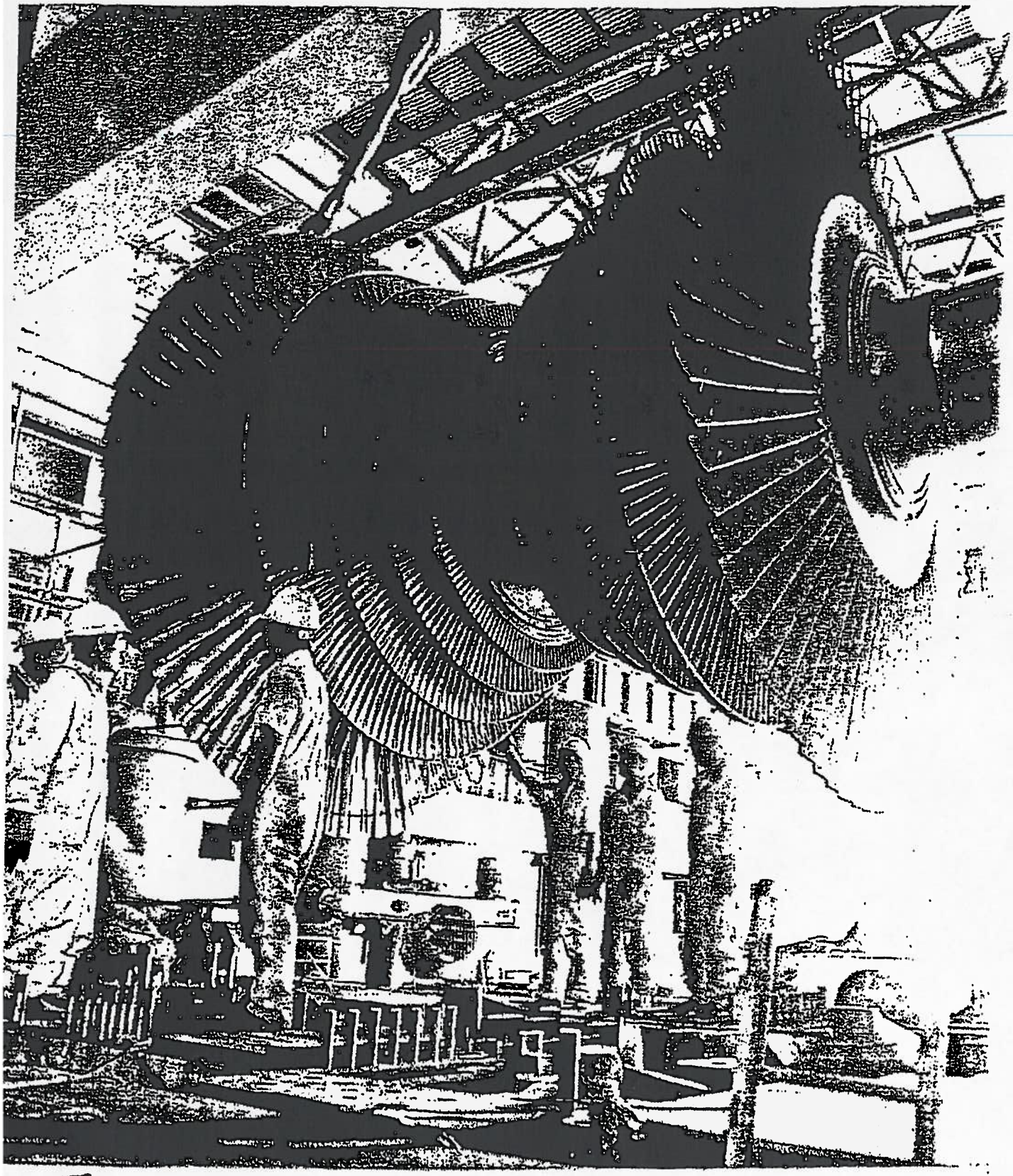


Fig. 1. LP rotor of a 350 MW turbine (being installed in the casing). (Courtesy of