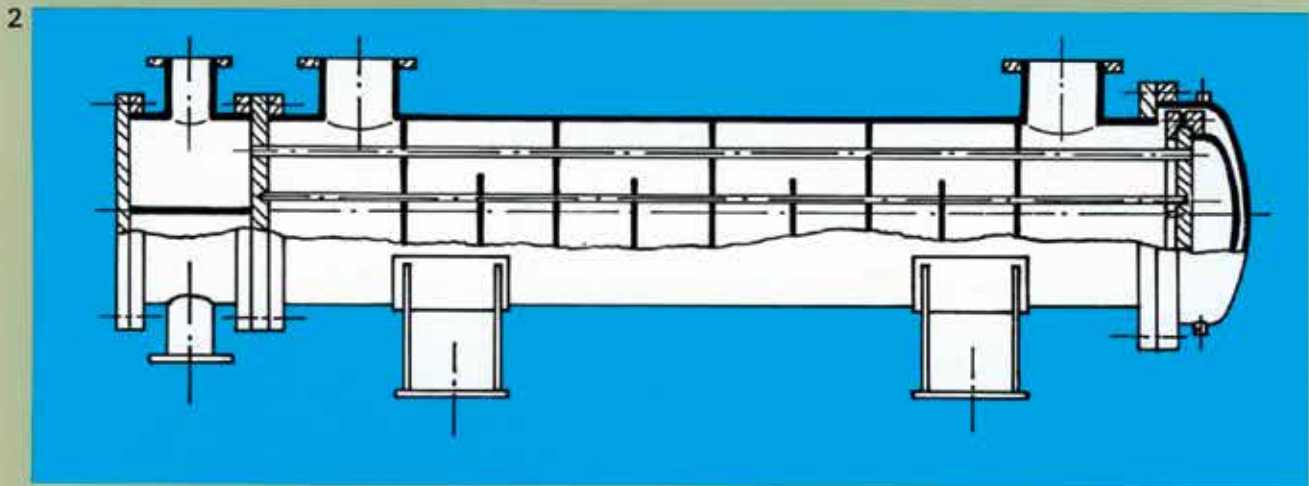
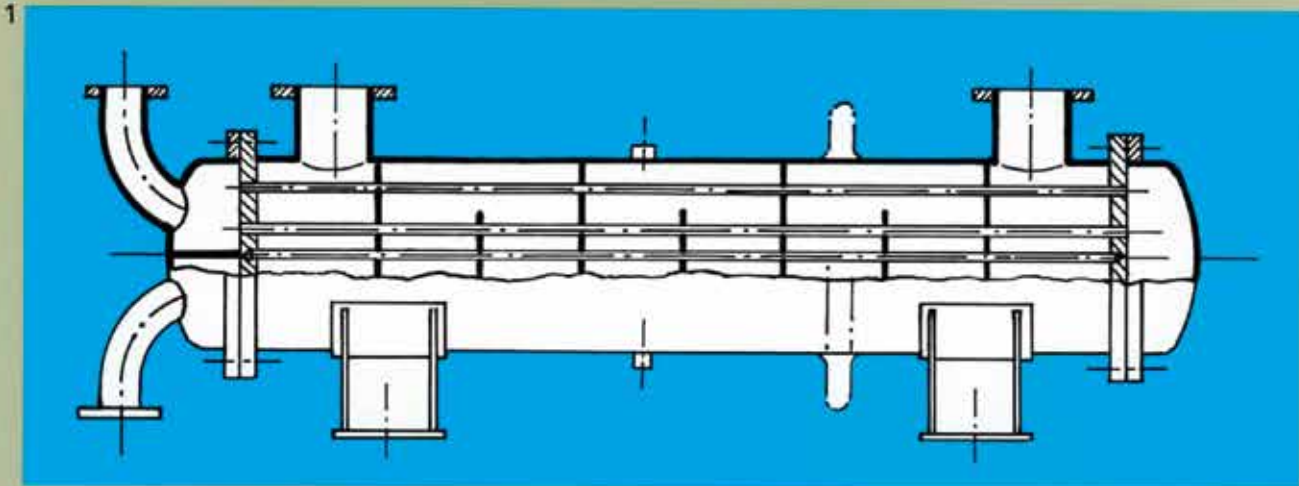


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## Generating plant

Cooling of the turbine lubricating oil.  
Cooling of seal oil bearing.  
Cooling of regulating fluid.  
Cooling of stator water.  
Different Exchangers : Noria circuit,  
Sommer cooler,  
Others.



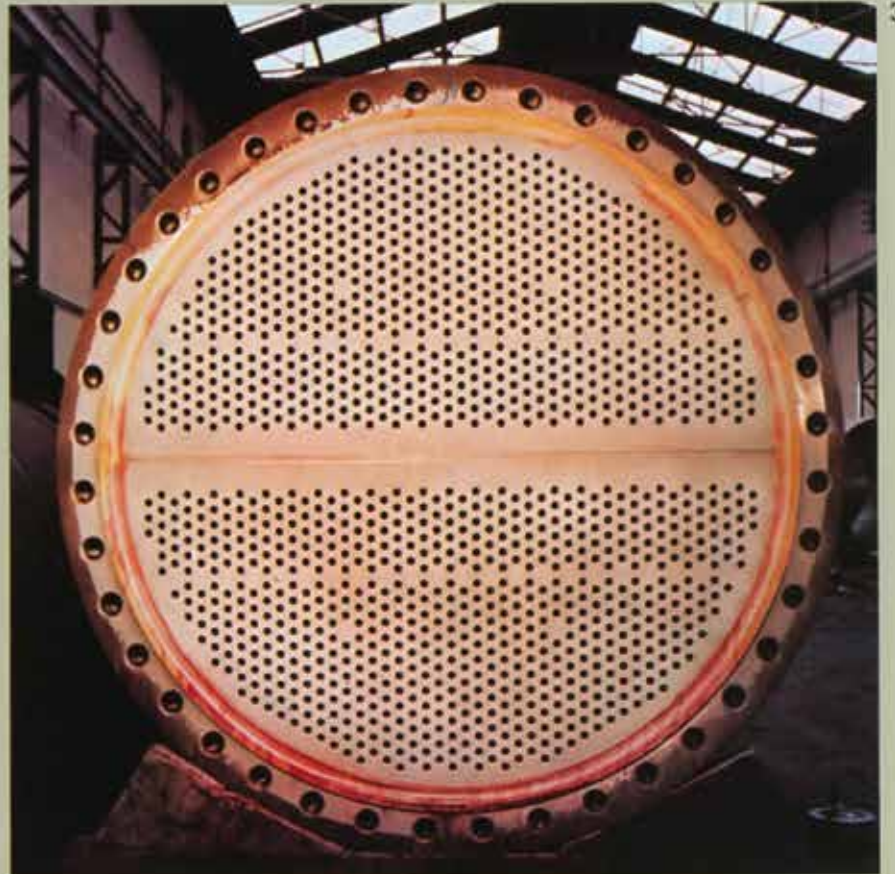
**1** Heat exchanger with fixed tube sheets.  
This type is suitable if the risk of fouling at the outside of the tube is low (demineralised water for example) as the tube bundle is not removable. The differential expansion can be compensated by a bellows welded in the shell.

**2** Heat exchanger with floating head.  
This arrangement allows a free expansion of the tube bundle and a total dismantling of the apparatus for its maintenance. It is recommended if the risk of fouling is high and if the fluids have very different temperatures.

## Nuclear Industry

Exchangers designed for auxiliary systems of nuclear power plant.

Residual heat exchanger :  
containment spray  
moderating  
regenerative heat exchanger  
seal water  
letdown  
excess letdown.



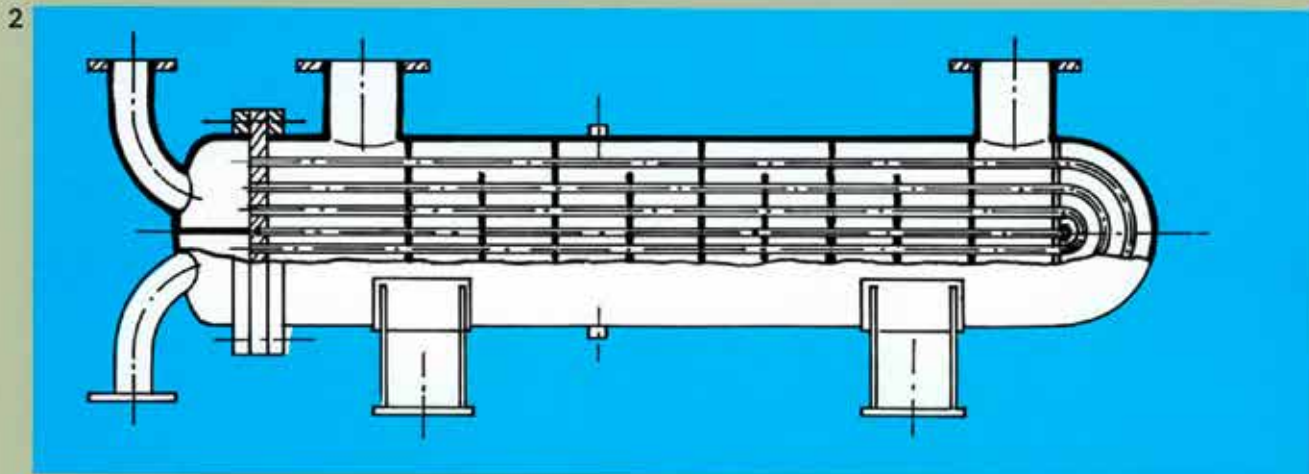
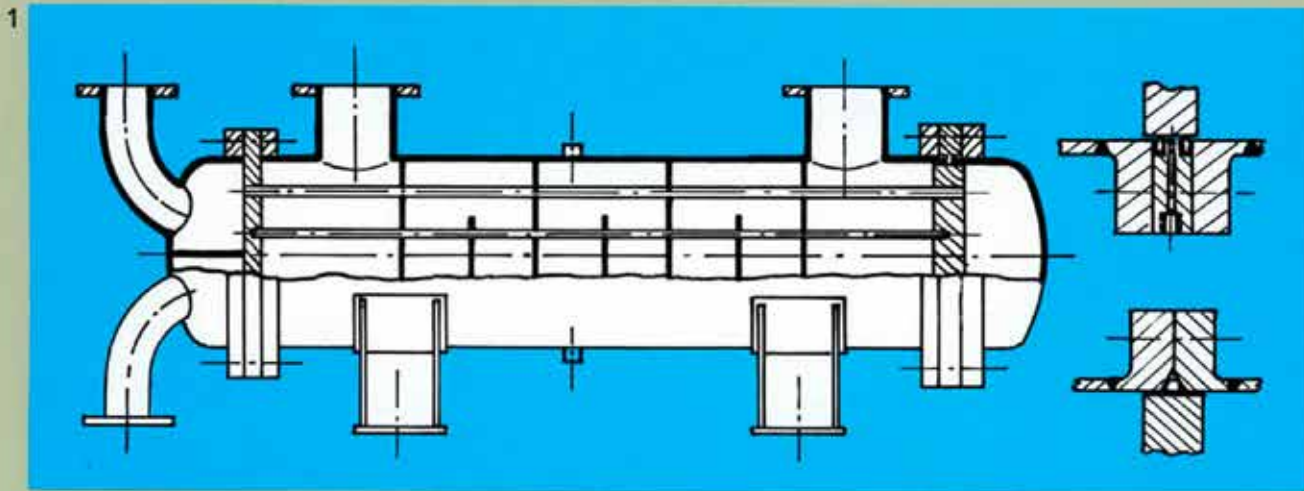
3  
Tubesheet of a residual heat  
exchanger for a nuclear power  
station  
Surface : 360 m<sup>2</sup>.  
Stainless Steel 304 L.  
ASME III, class 2.

## Heat exchangers

SCAM has been manufacturing heat exchangers for many years.

The main fluids used are :  
water, oil, petrol.

These exchangers are mainly designed for the cooling of the machines which produce electricity (turbines, alternators, motors) in the industry (refineries or chemical plants) or for certain other applications (nuclear power station, Navy).



1  
Exchanger with movable head.  
The sealing of the movable tube sheet is insured by one or two glands permitting free expansion and removal of the tube bundle.  
This type is particularly suitable for cooling of oil and water.

2  
Heat exchanger with U-tubes.  
This apparatus is used if the risk of fouling in the tube inside is low. It is suitable for high pressure and if a considerable temperature difference exists between the two fluids.

**Material :**

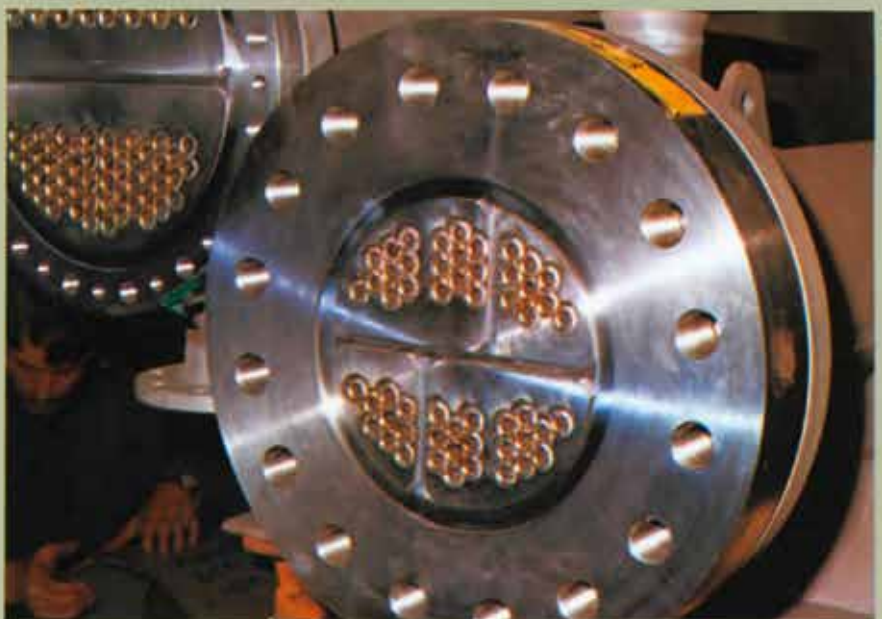
- Carbon Steel
- Stainless Steel or Alloy Steel
- Copper and Brass
- Cuproaluminium
- Cupronickel
- Titanium.



3

3  
Regenerative heat exchanger in  
two parts.  
Power Station 900 MW.  
Stainless steel 316 L.  
ASME III, classe 2.  
Test pressure.  
Tubeside : 921 bars.  
Shellside : 257 bars.  
Exchange Surface : 30 m<sup>2</sup>.

4  
Tubesheet, excess letdown.  
Power Station 900 MW.  
Test pressure.  
Tubeside : 256 bars.  
Surface : 7 m<sup>2</sup>.



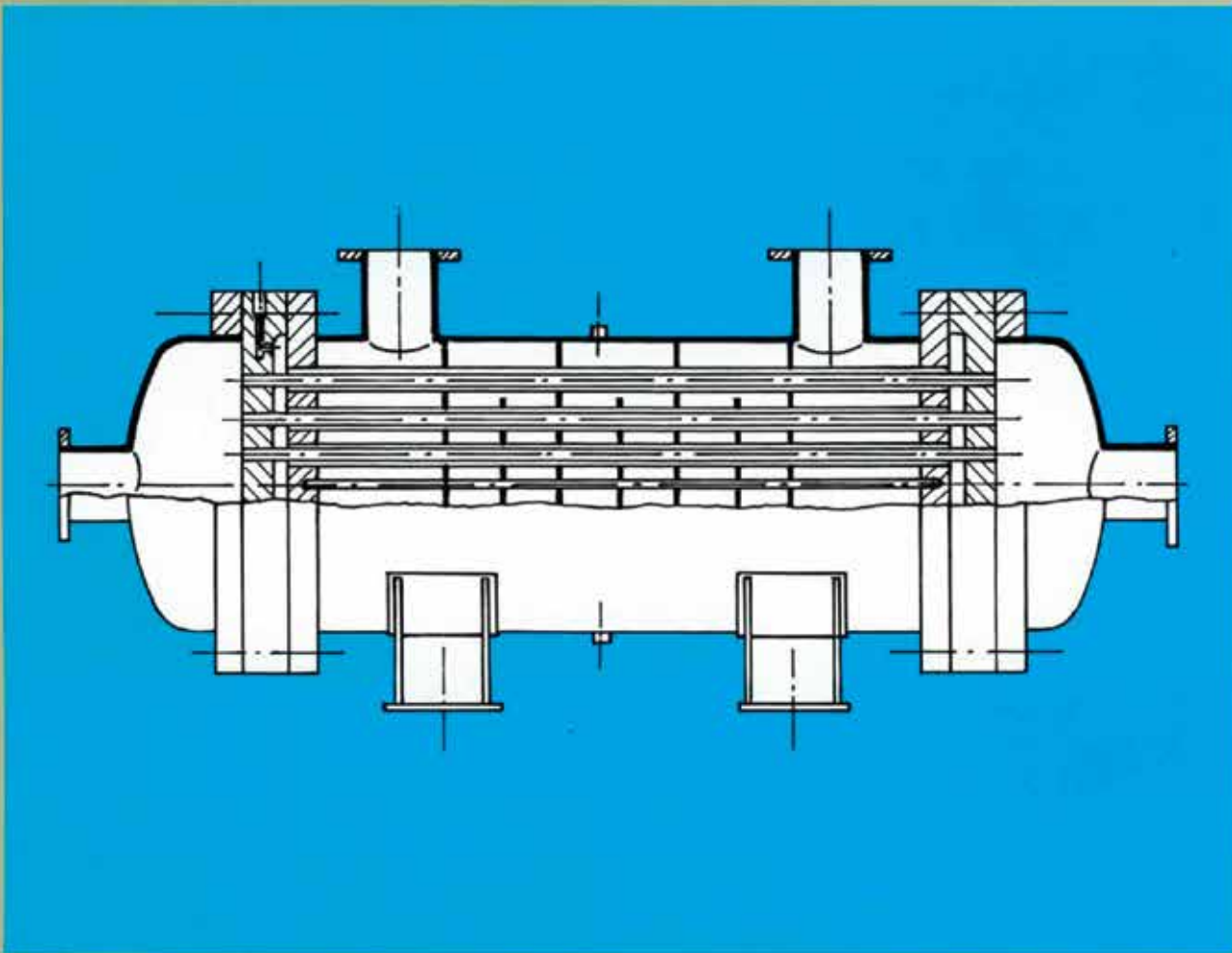
4

## Calculating codes

All the European and American calculating codes, such as :

- TEMA
- ASME
- VDI
- ANCC
- Particular client's specifications

1



1

Exchanger with double tubes and double tube sheets. This particular exchanger type allows to eliminate the risk of mixing the two fluids in case of a tube leak. The detection of any incident is done by means of intermediate chambers.

It is used if the pollution of the fluid can be dangerous for the whole installation.

For example :  
radioactive water / fresh water in nuclear power plants,  
fresh water / sea water for submarine.

## Industry

Chemical Industry.  
Refineries.  
Oil cooling.  
Petrol cooling.  
Water cooling.  
Special Exchangers.  
Navy.  
Nuclear Industry.



3



4

- 3  
Exchangers bundle of brass,  
35 m<sup>2</sup>, for the oil cooling of the  
motorcompressor group.
- 4  
Exchangers of stainless steel  
for cooling of lubricating oil.

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