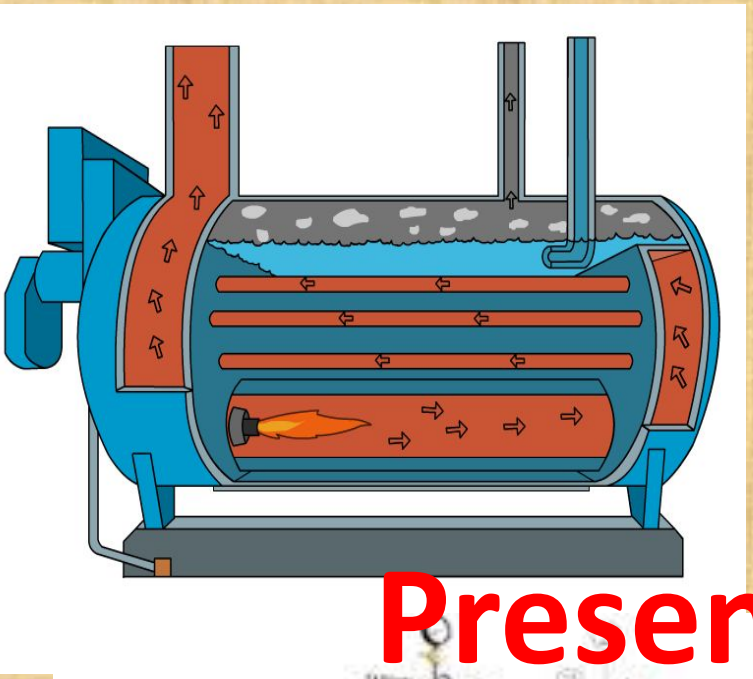
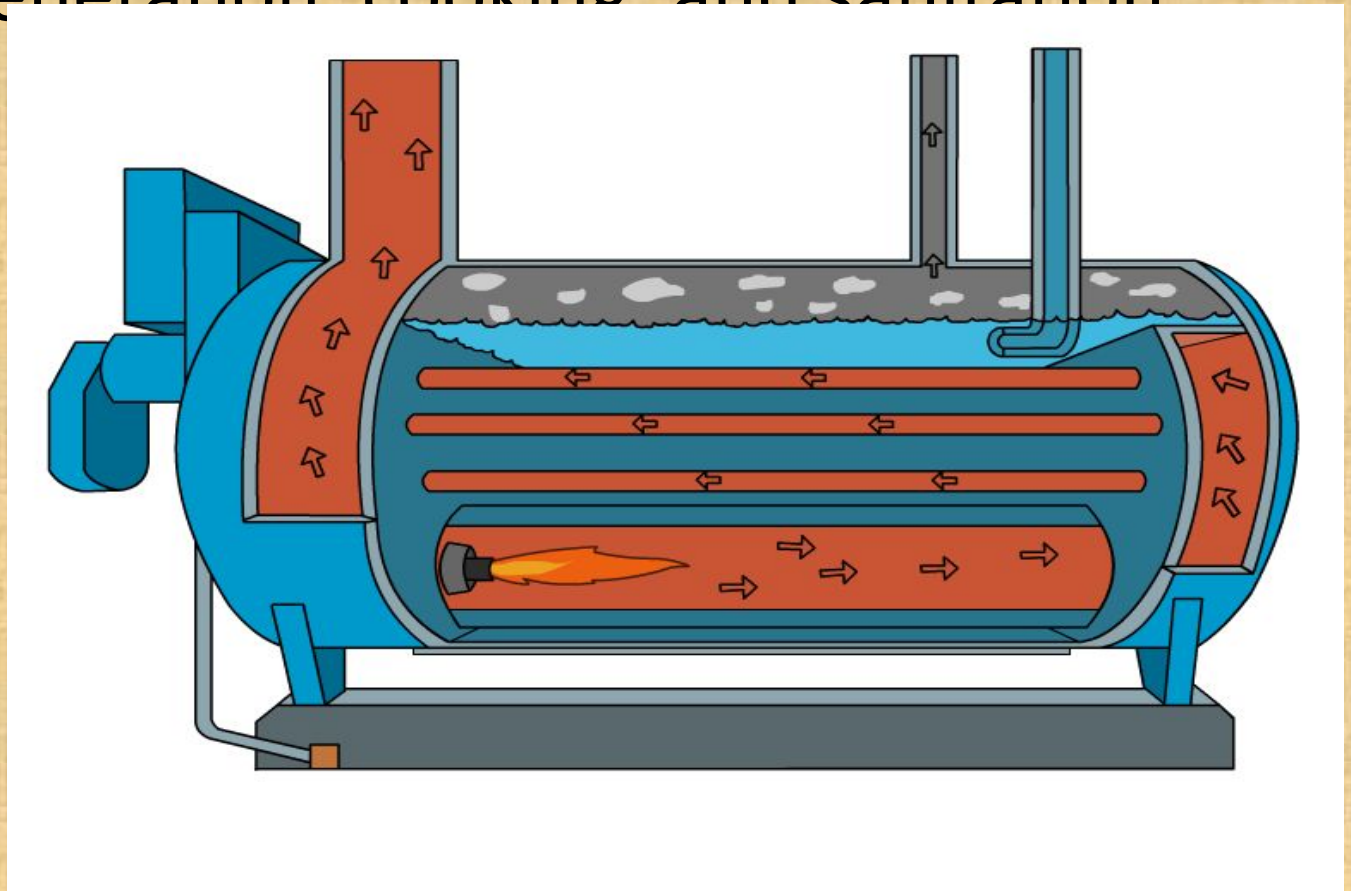


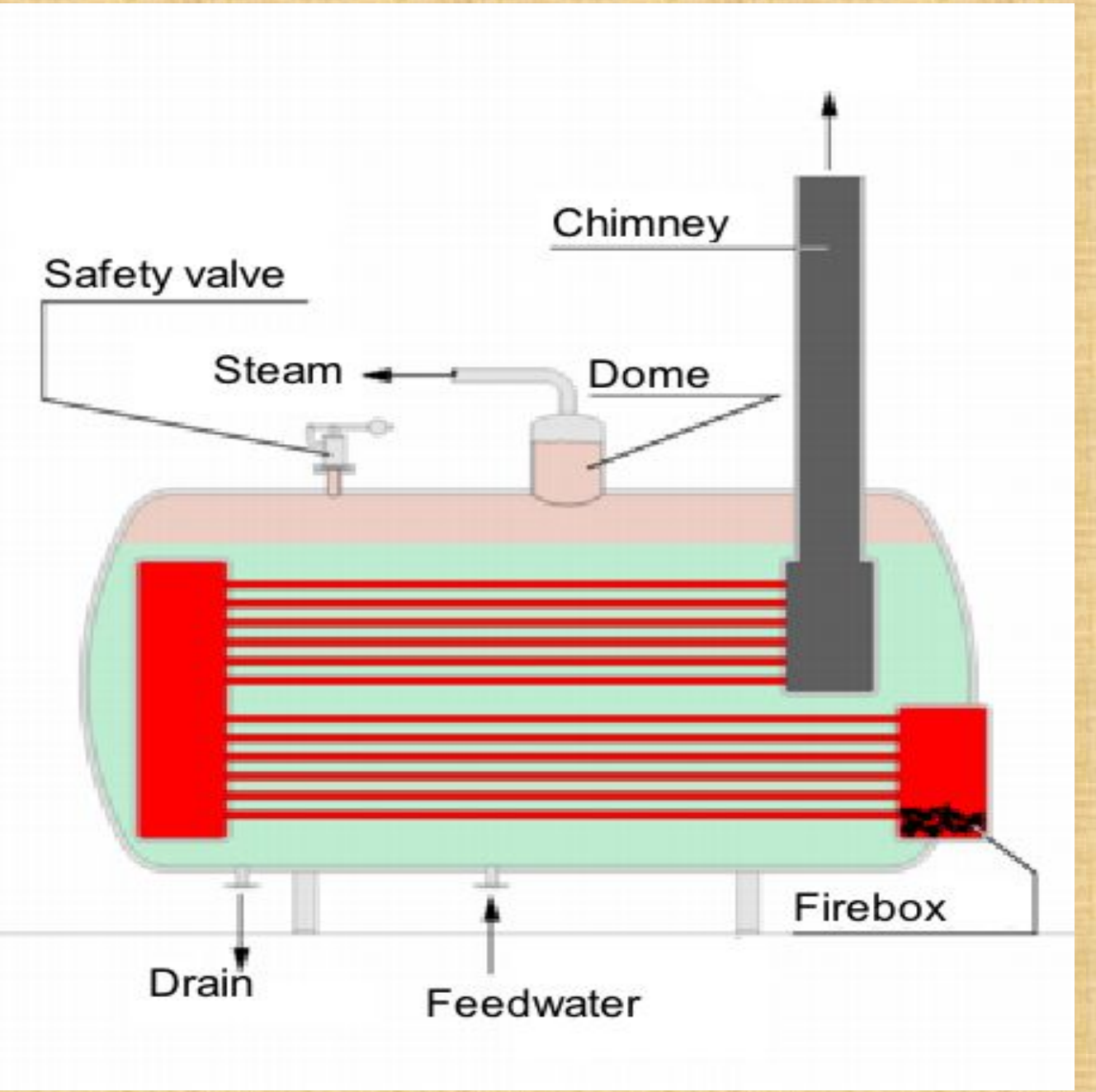
Presentation about Boilers

Boilers

- A boiler is a closed vessel in which water or other fluid is heated. The fluid does not necessarily boil

- The heated or vaporized fluid exits the boiler for use in various processes or heating applications,[1][2] including water heating, central heating, boiler-based power generation, cooking, and sanitation




Chimney
Safety valve
Steam
Dome
Firebox
Drain
Feedwater

Boiler efficiency

there are two method to measure the boiler efficiency

1) direct method
2) indirect method

Direct method

- Direct method of boiler efficiency test is more usable or more common

ККД котла = Q * (Hg-Hf) / д * GCV * 100

Indirect method

to measure the boiler efficiency in indirect method we need a following parameter like

1)Ultimate analysis of fuel (H2,S2,S,C moisture constraint,ash constraint)

2)percentage of O2 or CO2 at flue gas

3)flue gas temperature at outlet

4)ambient temperature in deg c and humidity of air in kg/kg

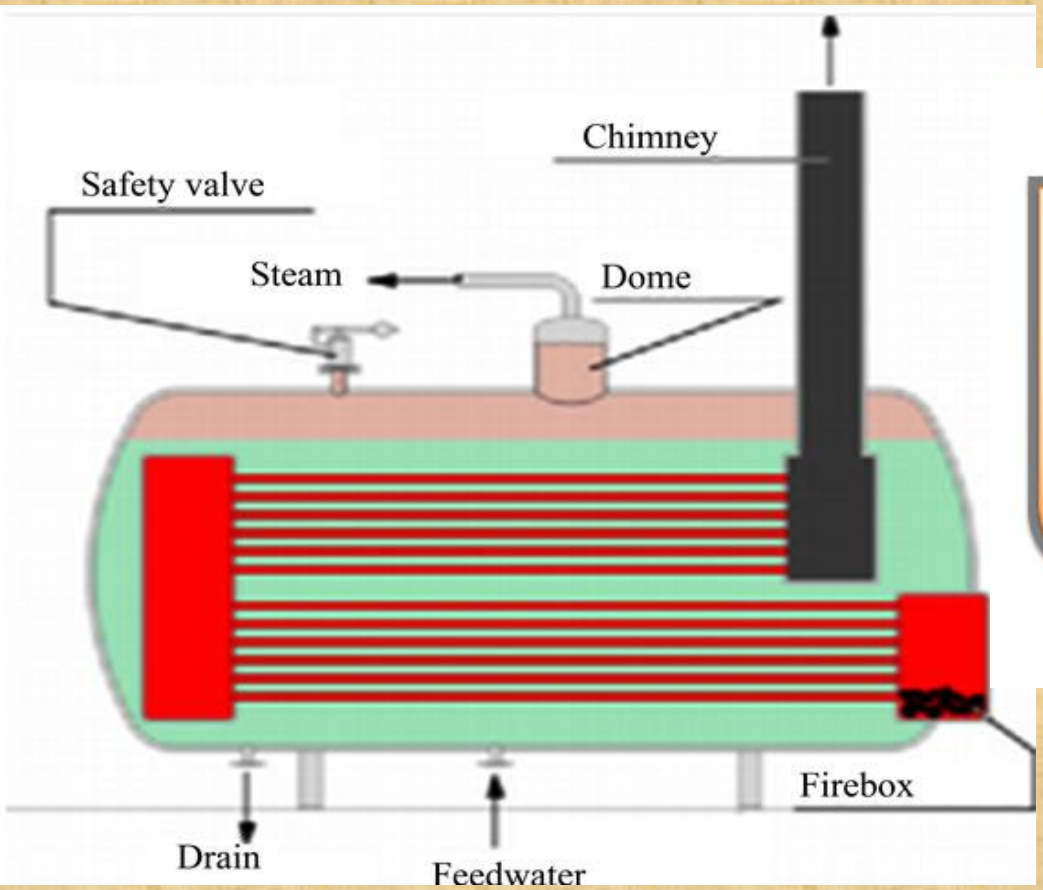
5)GCV of flue in Kcal/kg

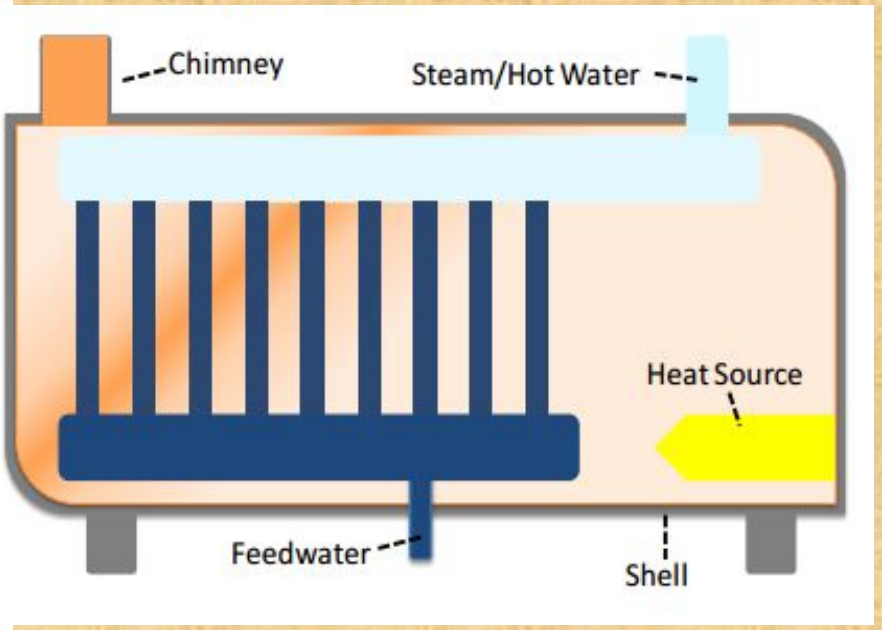
6)ash percentage in combustible fuel

7)GCV of ash in Kcal/kg

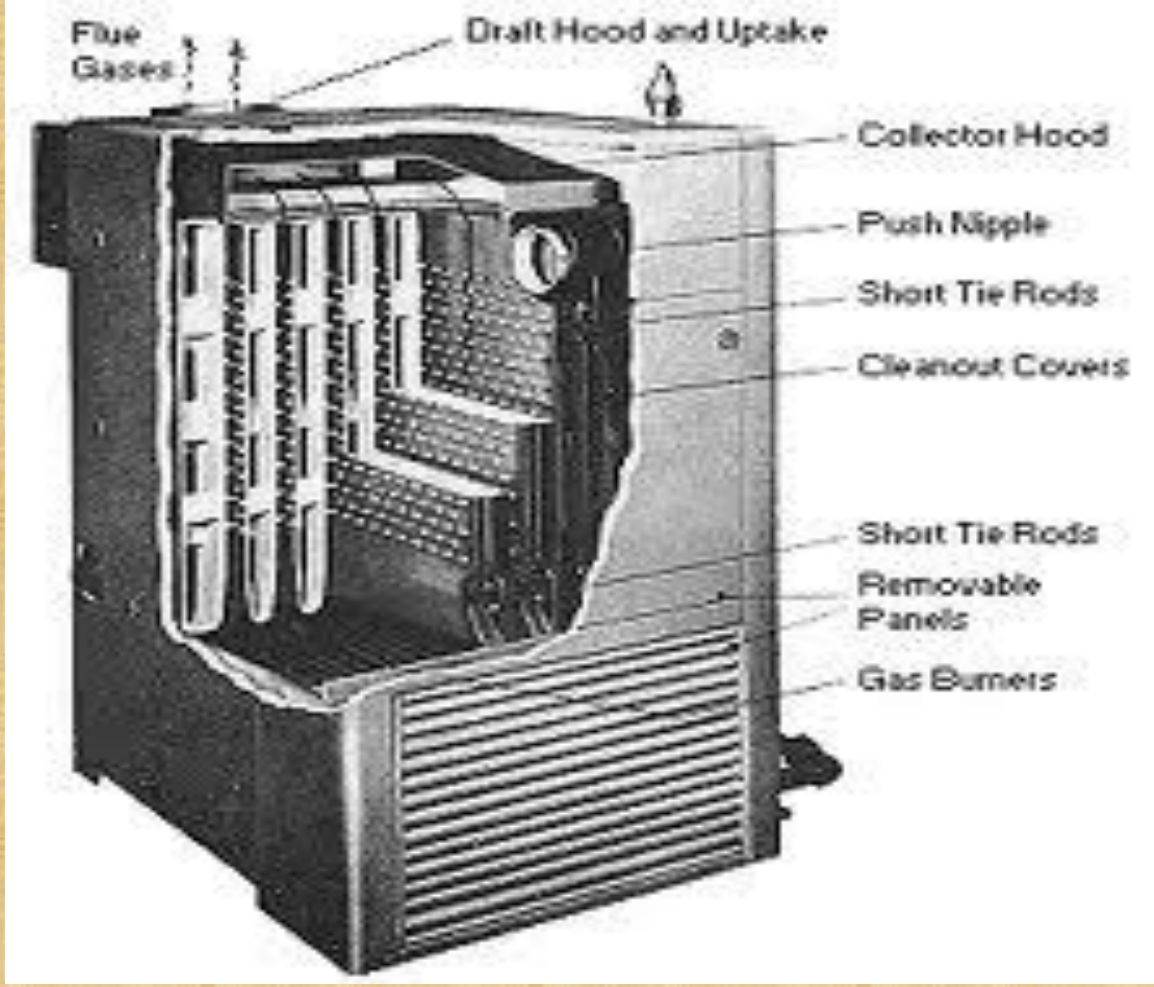
Types of Boilers

Two primary types of boilers include Firetube and Watertube boilers.





Cast iron sectional boilers



The END

Prepared
Student group TS-51s
Osipchuk Katia

Function boilers

- Continuous electronic flame modulation in heating and DHW modes;
- Smooth electronic ignition;
- pump post-circulation;
- Built-in weather-automatics;
- Possibility of weekly programming mode and DHW;
- ock protection system pump and three-way valve