



Key features

A trainer model of a fire-tube boiler is a physical or simulated representation used for educational purposes, training personnel, and assisting plant engineers in understanding the boiler's operation, maintenance, and safety procedures.

Experiment can be done by these apparatus:

1. Operation of a steam generator
2. Familiarization with safety procedures related to steam generators
3. Getting familiar with a variety of industrial components such as the boiler and the accumulator.
4. Recognition of Rankin cycle.
5. Calculation the total efficiency of steam generator
6. Calculation of the heat flux density and the overall heat transfer coefficient
7. Familiarization with T-S diagrams and steam charts
8. Calculation of: Evaporation rate, Combustion rate, Energy of consumption, Energy losses, Combustion energy, Steam energy

Technical Specifications :

- Burner: Two gas cylinders
- Volume: 7.5 liters each.
- Two gas hoses
- Two check valves Thread connection. Material of construction: Brass material.
- Two ball valves, thread connection. Material of construction: Stainless-steel material.
- One ball valve, Thread connection, Material of construction: Stainless-steel material.
- Accumulator, Diameter, 10 mm thickness, Material of construction: Steel material.
- Filter, thread connection.,Material of construction: Cast iron material.
- Pressure reducing valve:FRG/2MCS DN25,Upstream Pressure Value Pa: 5.5 bar,
- Downstream pressure value Pe: 60-90 mbar,Designed according to EN 88-2 EN13611(Red Colored).

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.



Export Sales: +91-9829132777
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IT-2013, Ramchandrapura Industrial Area,
Sitapura Extension, Jaipur-302022, India.



info@tesca.in
www.tescaglobal.com

- Two pressure sensors: Measuring Range 0 - 100 mbar (g), Material: Stainless Steel.
- Two pressure gauges: Measuring Range 0- 100 mbar (g)
- Exhaust gas temperature sensor: TYPE k, RANGE 0 - 500-degree Celsius, Stainless Steel material.
- Steam pipelines Saturation temperature sensor: RTD PT100, 0-200-degree Celsius, Stainless Steel material.
- Electric heater: 1
- Flange connection, Stainless steel element, 1 KW power (continuously adjustable).
- Superheated steam temperature sensor: TYPE k, Measuring Range 0 - 300-degree Celsius, Stainless Steel material.
- Pressure safety valve: operating Range 0 -10 bar, Phosphoric bronze material.
- Steam pressure sensor: Measuring Range 0 - 10 bar (g), Stainless Steel material.
- Condenser- Condenser temperature sensor: Type k,
- Measuring Range 0 -100 degree Celsius, Material: Stainless Steel.
- Condenser pressure sensor: Measuring Range -1 bar (g), Material: Stainless Steel.
- Level switch: Switch ON or OFF, Temp Rating: -10 ~ +85°C.
- Cooling Water
- Two quick water connections: water hoses connections, Material: Stainless Steel.
- Air ejector pump: Stainless Steel Nozzle.
- Feed water tank
- Upper-level switch: Switch ON or OFF, Temp Rating: -10 ~ +85°C.
- Lower-level switch: Switch ON or OFF, Temp Rating: -10 ~ +85°C.
- Drain solenoid valve: thread Connection, Material: Brass, Normally Close, MinPressure 0 bar.
- Feeding water line
- Positive displacement pump: High pressure diaphragm Pump, Power 1.2 KW.
- Feeding water temperature sensor: RTD PT100, Measuring Range 0 -100 degrees Celsius.
- Non-return valve: Swing type, thread connection, Material: Stainless Steel.

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