



## Steam Boiler Bench (SMT-THM-76)

The ESOLS Steam Boiler Bench SMT-THM-76 is a fully automatic electric steam generation system designed for practical laboratory and educational applications. Engineered to provide hands-on experience in the study of boiler operation and performance, this unit delivers reliable and safe steam generation for thermal science experiments. It integrates seamlessly with other steam bench units to form a comprehensive training platform.

The system produces 55 kg/hr of steam from and at 100°C using a 36 kW electric heating element. Housed within a self-contained unit, it includes all essential components such as a stainless steel feed tank, centrifugal feed pump, steam piping, safety valves, and control instrumentation. The adjacent student work surface and integrated measurement systems support a complete experimental setup.

## TECHNICAL SPECIFICATIONS

### Specifications:

- Model: SMT-THM-76
- Electric steam boiler rated at 36 kW
- Steam output capacity: 55 kg/hr from and at 100°C
- Stainless steel mains water feed tank
- Centrifugal feed water pump
- Steam main, blow down, drain, and feed water connections
- Integrated safety features including pressure relief valve, check valve, and stop valve
- Self-contained housing with sturdy framework and panel construction
- Adjacent student work surface attached to the main boiler unit
- Designed for interconnection with other steam experiment benches.



## Technical Data:

---

- Boiler pressure gauge range: 0 to 20 bar
- Boiler pressure controller included
- Two temperature measurement points via K-type thermocouples
- Measurement of electrical energy consumption in kWh
- Full drainage, blowdown, and water supply connectivity
- Complete instrumentation setup for student learning and analysis
- All components housed for mobility and operational safety

## Experimental Data:

---

- To determine the boiler evaporation capacity and equivalent evaporation
- Boiler efficiency trial
- To assess the heat loss from a boiler at a given steam output pressure