



## Condenser Bench (SMT-THM-84)

The ESOLS Condenser Bench SMT-THM-84 is a purpose-built unit for demonstrating the condensation process of steam and analyzing energy transfer efficiency. It is specifically designed for academic and laboratory use, offering students hands-on experience with surface condenser operations under monitored steam and water flow conditions.

This unit features a multi-tube surface condenser, a fully integrated cooling system, and detailed instrumentation for measuring pressure, temperature, and flow rates. Built on a sturdy frame with industrial-grade materials, it allows seamless integration with other ESOLS steam bench systems for complete thermal cycle experiments.

## TECHNICAL SPECIFICATIONS

### Specifications:

- Model: SMT-THM-84
- Multi-tube surface condenser with copper tubes and steam body
- Relief valve set to release at 1 bar with vent to atmosphere
- Steam discharge line fitted with isolating valve and measuring points
- Condensate tank fabricated from mild steel
- Tank includes sight level gauge, 0–50 cm graduated scale, overflow pipe, and drain line with isolating valve
- Steam feed line with isolating valve and lockable pressure-reducing valve
- Cooling water supply with isolating valve and flow meter
- Cooling water drain with control valve
- Temperature measuring points on both water supply and drain lines
- Steam header with full insulation
- Installed on steel frame with panels and water/blow-down service facilities
- Supplied with inter-connecting back panel, work surface, three flexible hoses, and aluminum-clad lagging for insulation.



## Technical Data:

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- Relief valve setting: 1 bar
- Condensate tank scale: 0–50 cm
- Pressure gauges:
  - Steam header: 0–16 bar Bourdon type
  - Condenser inlet/outlet: -1 to 3 bar Bourdon type
- Temperature measurement:
  - Type K thermocouples at all measurement points
  - Range: 0–250°C via analogue meter
  - Selector switch: 5-position