



Separating and Throttling Calorimeter (SMT-HT-56)

This trainer uses water as working medium. Water vapour is also known as steam. The trainer uses a two-stage method to determine the vapour content. A separating calorimeter with cyclone water separator is used to determine vapour contents with a high liquid content ($0,5 < x < 0,95$). The liquid part is separated, cooled and collected in a measuring cup.

A downstream throttling calorimeter is used to determine vapour contents between $x = 0,95$ and $x = 1$. The wet vapour is depressurised in this process. The remaining vapour part is depressurised and then liquefied in a water-cooled condenser and collected in a measuring cup. The two quantities can be used to determine vapour mass and total mass to calculate the vapour content. Sensors measure the pressure and temperature before and after depressurisation. The measuring results can be used to determine the vapour content with the h-s diagram.

Technical Specifications

Specifications:

- Determination of low and high-water contents in 2 phase liquid-water mixture
- Separating calorimeter for vapour content $x < 0.5$ with water-cooled re cooler
- Throttling calorimeter for vapour content $x > 0.95$ with water-cooled condenser
- Process schematic with functional schemes

Technical Data:

- Steam:
 - max.: 240°C
 - max.: 10bar
 - connections: 1/2"
- Safety valve:
 - 10bar
- Measuring ranges
 - temperature: 0...400°C
 - pressure (intake): 0...16bar
 - pressure (after expansion): -150...100mbar
- l x w x h: 890 x 600 x 1890 mm
- Weight: approx. 60 kg
- 230V, 50/60Hz, 1 phase
- 120V, 60Hz/CSA, 1 phase
- Steam: max. 10bar, 240°C
- Cold water supply required

