



The **concentric tube heat exchanger** is the simplest in design among all the heat exchangers.

It consists of two parallel tubes filled with cold fluid running. Inside each tube there is another pipe, smaller in diameter, filled with the heated fluid, thereby producing heat transfer. The advantage of this exchanger is its simple design.

The exchanger is arranged in two halves, and has incorporated thermocouples at midpoints, so as to significantly improve the learning outcome, because the change in temperature over the heat exchanger is clearly visible.

This exchanger can operate with co-current or countercurrent flows.

## TC 01.4 - TUBULAR HEAT EXCHANGER

### LEARNING OBJECTIVES

- Balance of energies in the exchanger.
- Calculate the log mean temperature difference.
- Determination of the overall heat transfer coefficient.
- Calculation of effectiveness.

### TECHNICAL DATA

- Dimensions: 440x250x100 mm
- Number of tubes: 2
- Surface heat transfer: 0.0186 m<sup>2</sup>

### REQUIREMENTS

- TC 01.1 HEAT EXCHANGER SUPPLY UNIT