



The shell tube heat exchanger is one of the most widely used in the industrial sector.

In this exchanger, the cool fluid passes through a series of tubes grouped in parallel inside the shell, whereas the heated fluid goes through the whole vessel that encloses the tubes, thus resulting in heat transfer.

The advantage of this type of heat exchanger is its compact design and the possibility to work at higher pressures than other designs.

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

## TC 01.3 - SHELL TUBE 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: 440x250x110 mm
- Number of tubes: 7
- Heat transfer area: 0,021 m<sup>2</sup>

### REQUIREMENTS

- TC 01.1 HEAT EXCHANGER SUPPLY UNIT