

Shell and tube heat exchanger (1) comprising a first outer shell (2) and a tube bundle (3), inlet and outlet interfaces communicating with the shell side and with the tube side for a first fluid and for a second fluid respectively, wherein the exchanger comprises a second shell (4) which is inside said first shell (2) and surrounds said tube bundle (3); said second shell (4) comprises at least one releasable longitudinal joint (32) and a plurality of longitudinal sections connected by releasable joints; said second shell (4) delimits the shell side of the exchanger (1) around said tube bundle (3), and further defines a flushing interspace (5) communicating with said shell side, said first fluid flows through said shell side along one or more longitudinal passages, and said first fluid and said second fluid are counter-current along said one or more longitudinal passages.