

The invention relates to a catalytic heat-exchange reactor for carrying out endothermic or exothermic catalytic reactions with at least one spiral upward flow around heat-transfer tubes and a central mixed-gas tube. The catalytic heat-exchange reactor may be part of a large plant, such as a chemical production plant.

Technical result: providing a more cost-effective solution for utilizing waste heat from the primary reforming process for additional reforming, lower production costs than in existing designs, and a reduction in the amount of material required for the heat transfer tubes.