

# HYBRID AMMONIA WATER ABSORPTION SYSTEM OF SMALL AND MEDIUM CAPACITY

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## ABSTRACT

*The paper presents an absorption system with compact heat exchangers (micro-channels), working with ammonia water solution, driven by either solar or electrical energy. The construction of the solar panels includes heat pipes, and they are able to provide hot water with a maximum temperature of 130°C.*

*The cooling capacity of the system ranges from 5 to 10 kW. The system is designed for comfort and technological air conditioning, providing inside air temperatures in the range of 10°C to 20°C.*

*The project promotes ammonia as an ecological and natural refrigerant and aims to experimentally evaluate the thermal performances of each component of the system (condenser, evaporator, absorber and vapor generator) and of the entire system. The next step consists in a theoretical versus experimental comparison of data. The thermal performances refer to heat transfer coefficients in micro-channels on water ammonia side, as well as on the airside, and to the performance coefficient for various working conditions.*

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