

# Solar Energy Assistant Double Cycle Refrigeration System

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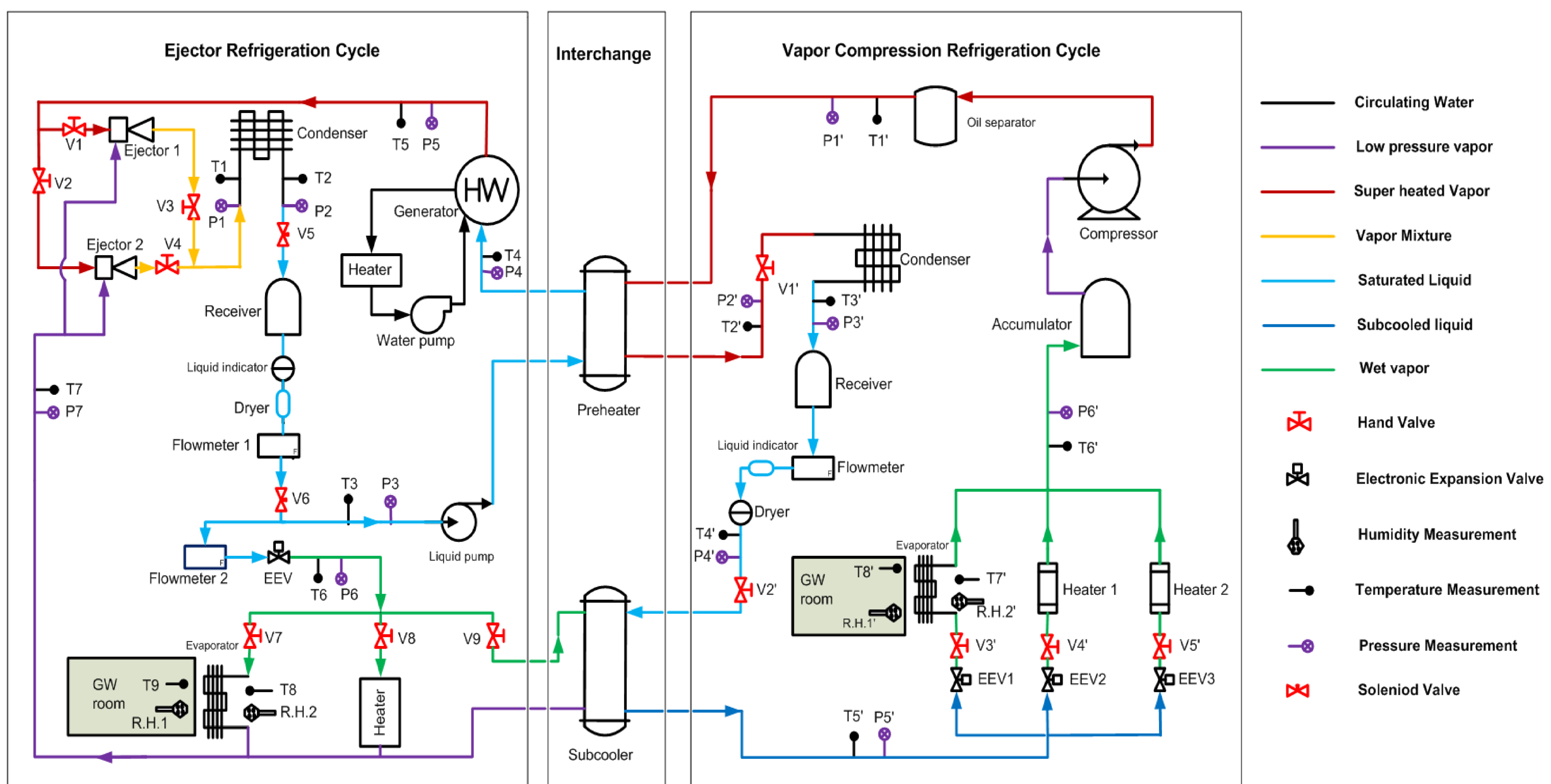


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## I. Objectives

This project is on the solar in Off-grid Applications and the main objective is to develop a systematic methodology for design and operation of solar energy assisted ejector-vapor compression air conditioning systems. The system structure consists of two refrigeration cycles: an electricity driven vapor-compression cycle and a recycled compressor waste heat and/or solar energy driven ejector cycle. The ejector refrigeration cycle is used to reduce the sub-cool temperature of the vapor-compression refrigeration cycle, increasing the coefficient of performance(COP) of the overall system and to reduce 30% running cost of the air-conditioning system.

## II. Schematic of Combined Vapor Compression-Ejector Cycle



## III. Front View and Experimental Results of Combined Vapor Compression-Ejector Cycle

