

Analysis of the Feasibility of Using a Solar Spiral Type Water Heater for Swimming Pool Application in Physiotherapy and Sports Centers

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Abstract : A heated pool makes it possible to use it during all hours of the day and in the seasons, especially in physiotherapies and sports centers. However, the cost of installation, operation and maintenance often makes it difficult to deploy. In addition, the current global policy for the use of natural resources from energy sources contradicts the most common means of heating swimming pools, such as the use of gas (Natural Gas and Liquefied Petroleum Gas), the use of firewood or oil and the use of electricity (heat pumps and electrical resistances). In this sense, this work focuses on the use of solar water heaters to be used in swimming pools of physiotherapy centers, in order to analyze their viability for this purpose in view of the costs linked to the medium and/or long term heating. For this, materials of low cost, low weight, easy commercial acquisition were used besides easy manufacture. Parameters such as flow, temperature distribution, efficiency and technical-economic feasibility were evaluated.

Keywords : heating, water, pool, solar energy, solar collectors, temperature, efficiency

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