

Design an Expert System to Assess the Hydraulic System in Thermal and Hydrodynamic Aspect

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Abstract : Thermal and Hydrodynamic are basic aspects in any hydraulic system and therefore, they must be assessed with regard to this aspect before constructing the system. This assessment needs a good expertise in this aspect to obtain an efficient hydraulic system. Therefore, this study aims to build an expert system called Hydraulic System Calculations (HSC) to ensure a smooth operation for the hydraulic system. The expert system (HSC) had been designed and coded in an user-friendly interactive program called Microsoft Visual Basic 2010. The suggested code provides the designer with a number of choices to resolve the problem of hydraulic oil overheating which may arise during the continuous operation of the hydraulic unit. As a result, the HSC can minimize the human errors, effort, time and cost of hydraulic machine design.

Keywords : fluid power, hydraulic system, thermal and hydrodynamic, expert system

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