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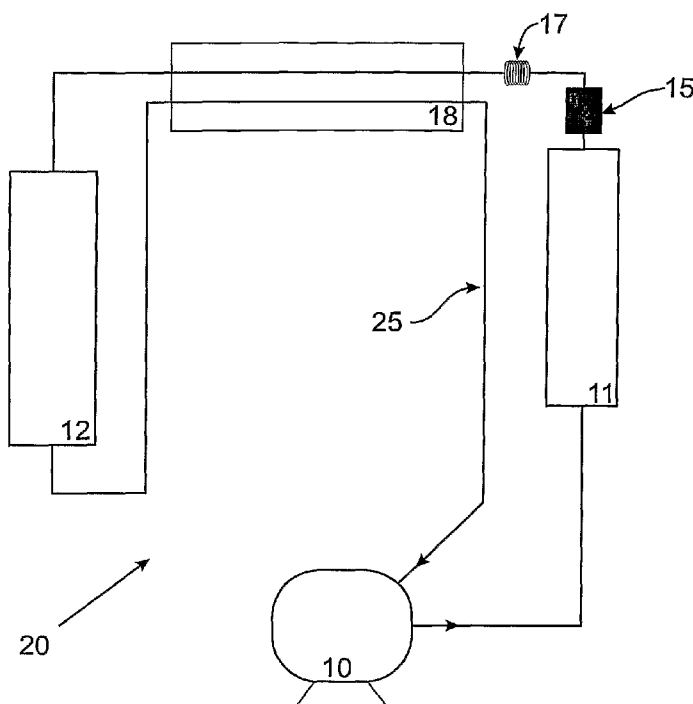
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(54) Title: FLOW RATE CONTROL SYSTEM IN REFRIGERATION CIRCUITS, METHOD FOR CONTROLLING A REFRIGERATION SYSTEM AND A REFRIGERATION SYSTEM



(57) Abstract: The present invention relates to a flow rate control system in refrigeration circuits, to a method for controlling a refrigeration system and to a refrigeration system properly speaking, which may include, for example, from a domestic refrigerator to an air conditioning system. In particular, the present invention is directed to a solution for the loss of efficiency in the expansion valve (17), when the system load varies, making the expansion valve (17) operate below its nominal capacity and, therefore, at low efficiency. One of the ways to achieve the objectives of the present invention is through a flow rate control system in refrigeration circuits comprising a hermetic compressor fluidly connected to a closed circuit (20). The closed circuit (20) comprising a condenser (11), an evaporator (12) and a fluid expansion device (17), the closed circuit (20) being filled with a fluid, the fluid expansion device (17) having a nominal expansion capacity and being positioned between the evaporator (12) and the condenser (11), the hermetic compressor (10) promoting a fluid flow inside the closed circuit (20), the closed circuit (20) having a circuit nominal flow rate capacity. In addition, the system comprises

a flow control valve (15) which is positioned between an outlet of the condenser (11) and an inlet of the fluid expansion device (17), the flow control valve (15) being modulated so that the fluid passing through the fluid expansion device (17) is always at nominal expansion capacity. A method for controlling a refrigeration system is also disclosed.



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