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(54) Title: METHOD AND SYSTEM FOR REGULATION OF COOLING CAPACITY OF A COOLING SYSTEM BASED ON A GAS EXPANSION PROCESS.

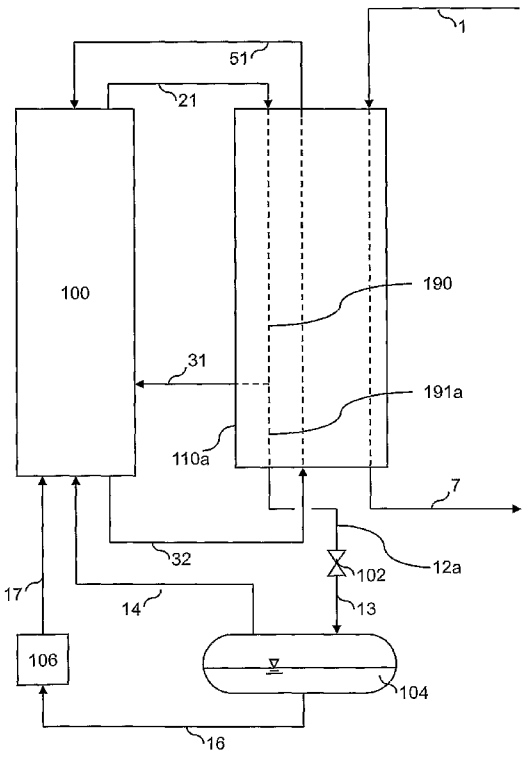



Figure 1

(57) Abstract: A method and associated system for regulation of the cooling capacity of a cooling system that uses a gas expansion cooling circuit where the cooling principle is expansion of one or more gaseous cooling medium streams from a higher pressure to a lower pressure are described,, characterised by the following steps: - reducing the amount of cooling medium which is circulated in the cooling circuit (100) temporarily in that a fraction of gaseous cooling medium is pre-cooled at a higher pressure and is extracted from the cooling circuit (100), - expanding the fraction of cooled gaseous cooling medium across an expansion device (102) to a lower pressure so that at least one part of liquid cooling medium separates, - separating the liquid from the non-condensed gas for temporary storage in a storage unit (104) so that the liquid is temporarily not circulated in the otherwise closed cooling circuit (100), - thereafter to return temporarily stored gaseous cooling medium from the storage unit (104) to the cooling circuit (100) according to need, and - returning non-condensed gas and evaporated cooling medium from the storage unit (104) to a suitable location in the cooling circuit (100). A system to reduce the cooling capacity of a cooling installation based on gas expansion cooling, is also described.

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