METHOD AND APPARATUS FOR COOLING HYDROGEN

ABSTRACT

In a method for cooling hydrogen during a start-up mode,
supercritical natural gas (1, 2) is sent to a first exchanger (E1) so as to cool it and exchanges heat there with a flow of intermediate fluid (5) of a cycle at a pressure of between 3 and 70 bar abs that is cooled, the flow of intermediate fluid (5) cooled in the first exchanger is sent directly to the inlet of a compressor (C, C1) that compresses it with a compression rate less than that of the first mode, the molar flow rate of the intermediate fluid (13) being less than 80% of the molar flow rate of intermediate fluid sent to the compressor during stable operation and the intermediate fluid (15, 17) compressed in the compressor is sent back to the first exchanger as cycle fluid.

[Fig. 1]