

Title (en)
Temperature regulation of a high temperature electrolyser

Title (de)
Temperaturregelung eines Hochtemperatur-Elektrolyseurs

Title (fr)
Régulation de la température d'un électrolyseur à haute température

Publication
EP 2674515 A1 20131218 (DE)

Application
EP 12171458 A 20120611

Priority
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Abstract (en)
The control unit comprises a temperature probe (10), which is adapted to detect a temperature at a place of a conduit, first conditioning unit (20) for physical conditioning of the fluid connected to the conduit with respect to a high temperature electrolyzer (5), and a first return conduit, which is adapted to recycle of fluid leaked from the electrolyzer to a location of the conduit, which is located in upstream in relation to the high temperature electrolyzer. The control unit controls the first conditioning unit as a function of the detected temperature by the temperature probe. The control unit comprises a temperature probe (10), which is adapted to detect a temperature at a place of a conduit, and first conditioning unit (20) for physical conditioning of the fluid connected to the conduit with respect to a high temperature electrolyzer (5), and a first return conduit, which is adapted to recycle of fluid leaked from the electrolyzer to a location of the conduit, which is located in upstream in relation to the high temperature electrolyzer. The control unit controls the first conditioning unit as a function of the detected temperature by the temperature probe. The return conduit consisting of leaked fluid leaked from the electrolyzer is connected to a heat exchanger (35) connected to the conduit, and opens into the conduit. The fluid located in the conduit is conditioned by recycled fluid, both before supplying to the high temperature electrolyzer. The control unit further comprises a second conditioning unit designed as a flow generator, and a second return conduit (21). The control unit controls conditioning unit as a function of the temperature detected by the temperature probe. A first temperature probe is provided on the conduit at a first location in upstream of the high temperature electrolyzer, and a different second temperature probe is provided in the line at a second location in downstream of the high temperature electrolyzer. The first conditioning unit is constructed as a heater, which is adapted to heat the fluid or as a flow generator that is adapted to pressurize fluid located that in the conduit. The second return conduit returns the fluid from the high temperature electrolyzer to a location of the conduit, which is arranged in upstream of the high temperature electrolyzer, is connected to the heat exchanger, and is adapted to thermally condition the fluid before supplying to the high temperature electrolyzer. The heat exchanger in relation to the first conditioning unit is connected to in upstream of the conduit.

Abstract (de)
Die Erfindung betrifft eine Regeleinheit (1) zur Temperaturregelung eines mit Fluid über eine Leitung (2) versorgten Hochtemperatur-Elektrolyseurs (5), welche wenigstens eine Temperatursonde (10) aufweist, die dazu ausgebildet ist, die Temperatur an einem Ort (O1) der Leitung (2) zu erfassen, sowie wenigstens eine in Bezug auf den Hochtemperatur-Elektrolyseur (5) stromaufwärts in die Leitung (2) verschaltete erste Konditioniereinheit (20) zur physikalischen Konditionierung des Fluids, und eine Rückführleitung (30), welche aus dem Hochtemperatur-Elektrolyseur (5) ausgetretenes Fluid zu einem Ort der Leitung (2) zurückführt, welcher Ort stromaufwärts in Bezug auf den Hochtemperatur-Elektrolyseur (5) angeordnet ist, wobei die Regeleinheit (1) die erste Konditioniereinheit (20) in Abhängigkeit der durch die Temperatursonde (10) erfassten Temperatur regelt.

IPC 8 full level
C25B 15/02 (2006.01); **H01M 8/04** (2006.01)

CPC (source: EP)
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Citation (applicant)
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