

Title (en)
LOW-PRESSURE DROP STRUCTURE OF PARTICLE ADSORBENT BED FOR IMPROVED ADSORPTION GAS SEPARATION PROCESS

Title (de)
STRUKTUR MIT NIEDRIGEM DRUCKABFALL EINES PARTIKELADSORPTIONSBETTS FÜR VERBESSERTES
ADSORPTIONSGASTRENNUNGSVERFAHREN

Title (fr)
STRUCTURE À FAIBLE CHUTE DE PRESSION D'UN LIT D'ADSORPTION DE PARTICULES POUR UN PROCÉDÉ AMÉLIORÉ DE
SÉPARATION DE GAZ PAR ADSORPTION

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Application
EP 17791701 A 20171101

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Abstract (en)
[origin: WO2018083109A1] A gas separation unit for the separation of a first gas from a mixture containing said first gas as well as further gases by using a cyclic adsorption/desorption process using a loose particulate sorbent material for gas adsorption wherein said particulate sorbent material is arranged in at least two stacked layers (5), which are mounted on a stiff rectangular circumferential frame structure (7) being formed by four metal profiles (7', 7'') arranged pairwise mutually parallel, said metal profiles having pairs of legs arranged essentially parallel to said inlet face (18) of the layer (5) and said outlet face (19) of the layer (5), respectively, and allowing for fixing sheets of flexible material holding the sorbent material circumferentially to said legs on each respective face (18, 19). Further a plurality of preferably meandering tubes (11) is provided for a heat exchange fluid within said stiff rectangular circumferential frame structure (7) and within said cavity, over the non-bent portions thereof all being arranged essentially parallel to one first pair (7') of said mutually parallel metal profiles, and wherein said tubes (11) are in thermal contact with a plurality of sheets (9) of metal which are arranged essentially perpendicular to a main plane of the frame (7) and perpendicular to said tubes (11), and which extend in a continuous manner between said first pair of mutually parallel metal profiles (7') and are provided with a plurality of holes (10) through which the plurality of tubes (11) penetrate.

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See references of WO 2018083109A1

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