

PRESSURE SWING ADSORPTION DEVICE

ABSTRACT

A pressure swing adsorption apparatus comprises: a housing (1) with an arc-shaped inner surface (10), the housing (1) being arranged with at least one gas inlet (12), at least one exhaust port (14) and at least one gas outlet (16) for discharging the separated gas; a rotor (2) arranged in the housing (1), at least two contact ends (21, 23, 25) being arranged on the rotor (2) for maintaining a non-stop sliding contact with the inner surface (10) of the housing (1), individual cavities, i.e., air cavities between the adjacent contact ends (21, 23, 25) and formed between the external surface of the rotor (2) and the inner surface (10) of the housing (1), and each air cavity being separated by the contact ends (21, 23, 25); adsorption chambers (32, 34, 36) set inside the rotor (2) as parts of the rotor (2) and rotated along with the rotor (2), molecular sieves being loaded in the interior of the adsorption chambers (32, 34, 36), and the adsorption chambers (32, 34, 36) being provided with screen openings for connection with the air cavities.