CLAIMS

1. A pressure swing adsorption-type oxygen enrichment device comprising:

a plurality of adsorption cylinders filled with an adsorbent which selectively adsorbs nitrogen relative to oxygen;

a compressor for supplying raw material air to the adsorption cylinders;

means for performing an adsorption step for supplying compressed air to each of the adsorption cylinders and extracting an oxygen-enriched gas by sequentially switching flow channels between the compressor and each of the adsorption cylinders;

means for performing a desorption step for depressurizing each of the adsorption cylinders and regenerating the adsorbent;

means for performing a pressure equalizing step for communicating each of the adsorption cylinders;

a flow-channel switching means for repeating a purge step in a specific timing, in which highly concentrated oxygen from the adsorption cylinder in the adsorption step is introduced into the adsorption cylinder in the desorption step;

a flow setting means for supplying the oxygen-enriched gas to a user at a specific flow rate;

an oxygen concentration sensor for detecting an oxygen concentration of the oxygen-enriched gas produced by the oxygen enrichment device;

a temperature sensor for measuring a temperature of the device; and

a purge step control means which controls a length of a purge step so as to maximize the oxygen concentration by changing opening/closing timing of the flow-channel switching means, when an output value of the oxygen concentration sensor is lower than a specified value, or the output value of the temperature sensor is out of a specific temperature range.