

PSA PROCESS WITH DYNAMIC PURGE CONTROLABSTRACT OF THE DISCLOSURE

Oxygen of uniform purity is produced in a two-bed air-fed oxygen pressure swing adsorption process in which the beds are operated out of phase. The steps of the adsorption cycle include a pressurization/production step and a bed regeneration step, with the bed undergoing regeneration being purged with a low pressure stream of the oxygen-enriched gas produced as the nonadsorbed product of the process. The oxygen concentration in the purged gas effluent is continuously periodically monitored, and the maximum oxygen concentration in the effluent during selected purge steps is compared with the maximum oxygen concentration in the effluent during a previous purge step, and the difference is used to adjust the timing and duration of a purge step following the selected purge step in a manner that reduces the difference between the oxygen concentration in the sequential purge steps.

Fig. 1