ABSTRACT

Process and apparatus for the electrolysis of an aqueous solution of hydrogen chloride or alkali chloride in an electrolytic cell

In a process for chlorine-alkali electrolysis, use is made of an oxygen depletion cathode. The process is run with a high excess of oxygen. The oxygen needed for this is provided for a device of the gas separation, for example a VPSA plant or an air fractionation plant. The large quantities of oxygen produced lead to considerable costs of the process. According to the invention, the oxygen-rich atmosphere remaining after passing through the process is fed back into the device for gas separation as input gas. The device the gas separation is therefore operated with an oxygen-rich input gas and therefore produces a larger quantity of oxygen-rich gas, which in turn is fed to the oxygen depletion cathode. As a result of the circulation of the gas, the economy of the overall process is increased considerably.

Fig. 1