

Process and apparatus for determining the total oxygen content and/or the total carbon content in ammonia

Abstract

The invention relates to a process for determining the total oxygen content and the total carbon content in ammonia, in which ammonia is first split into nitrogen and hydrogen, then the oxygen still present in the ammonia is reacted essentially fully with hydrogen to give water and the carbon still present is reacted essentially fully with hydrogen to give methane. In a next step, the water content and the methane content in the gas are determined. Finally, the total oxygen content is determined from the water content and the total carbon content from the methane content. The invention further relates to an apparatus for performing the process, which comprises a cracker for splitting the ammonia and for converting the oxygen- and/or carbon-comprising compounds, and at least one cavity ring-down spectrometer for detecting the water content and/or carbon content. The cracker and the at least one spectrometer, and also all devices and connecting lines between the cracker and the spectrometer, are surrounded by an inert gas.

(Figure 1)