

## **Influence of Recirculation Rate on CO and NO Emission in HTAC Combustion Technology with Natural Gas – Kamil Malczyk, Andrzej Szlęk**

### Summary

HTAC (High Temperature Air Combustion) technology is one of the most important achievements in combustion engineering of recent years. The main idea of the technology is to organize combustion in such a way that reaction takes place in almost whole volume of combustion chamber with very uniform gas and temperature field. It can be done by preheating air above the ignition temperature of fuel, separation of air and fuel nozzles and by high recirculation inside the combustion chamber. Uniform and moderated temperatures result in very low thermal NO emission, and on the other hand, long enough residence time in the chamber results in low CO and incomplete products emission. In this paper authors present simple mathematical model which allows for estimation of influence of air temperature and flue gas recirculation rate on final emission on NO and CO.