

**TEMPERATURE CHARACTERISTICS OF
POWERFUL THREE-PHASE PLASMA
GENERATOR OF ALTERNATING CURRENT
WITH AIR AS WORKING GAS**

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The paper describes the results of spectral measurements of power arc plasma generators of alternating current using air as a working gas. The dependence of temperature in the plasma generator flame on gas flow rate is investigated. Now the significant attention is given to development of devices for generation of air plasma of atmospheric pressure with electron concentration more than 10^{12} cm^{-3} and gas temperature less than 2000 K. There are a lot of applications of this type of plasma, and every year their amount increases. For example there are systems of sterilization, air-plasma hardening of materials and modification of polymer surface. Besides organic waste processing technologies are actively developed in the last decade. It is known that calorific value of many kinds of solid organic containing waste is enough for the organization of processes of their combustion with the purpose of destruction with the subsequent recuperation of part of energy. A great amount of combustion plants is created all over the world. However it rather more efficient to subject organic waste to gasification because in this case the organic component of waste will be transformed to combustible gas having a wide spectrum of opportunities on further application, the main of which is energy generation. According to the preliminary estimations and calculations the low temperature plasma application in these processes will allow essentially increasing in their efficiency, and use of plasma generators of the examined type looks very promising.