

Strategic calculation of gas ring networks

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Abstract

The main difference between ring networks and extended ones is the fact that ring networks consist of closed contours, so that the gas can pass through two or more gas lines simultaneously, which means that such gas contours can be traversed with different feeds, unlike the extended lines that are crossed only by a gas stream. This means that the calculation of such ring networks must be performed according to a more complicated algorithm than straight lines. In other words, the calculation of annular networks is performed through the respective optimal models, so as to ensure an optimal operation of such contours in question. The other essential difference of annular networks to the straight ones is also noticed in the fact that the change of the diameter of any contour penetrating part results in the change of the pressure in the starting part of the network. In other words, the diameter, thrust pressure and gas flow in the respective ring contour now change, as well as in the whole ring network, and thus the calculation algorithm of ring networks is quite complicated. An algorithm for calculating ring networks is basically based on the respective rules for ring nodes as well as branches of ring contours. For this reason the application of optimal models to the calculation of gas ring networks is accompanied by the use of more complicated mathematical apparatus.

Keywords: Gas ring networks, Optimal calculation model, Calculation algorithm to gas ring networks.

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