

A SEARCH OF METHODS OF TIMELY WARNING OF THE PHENOMENON OF SURGE IN CENTRIFUGAL PRESSURIZER OF GASCOMPRESSOR UNIT

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Surge is a burble of gas in a compressor with the loss of dynamic stability. The vibrations of expense and pressure of gas arising up here can result in destruction of equipment. The phenomenon of surge arises up, when pressure on the exit of supercharger is high, and gas expense through it is subzero. For protecting of centrifugal supercharger from the surge, gas flowing is used from the exit of a compressor to its entrance in an amount necessary for avoidance of surge.

The phenomenon of surge is studied very little and the calculation of border of surge area is impossible. It can be only approximately certain only by means of the already known descriptions, executed by analogical machines. Derangement can be examined as a poly stationary and surge as a batch process.

Surge as a global (complete) loss of stability is the impermissible phenomenon for a centrifugal compressor.

Centrifugal compressors are mainly equipped by the self-reactance systems of blow-off defence. The presence of an own patent on such a system is considered prestige, therefore practically every producer offers the own system. Work of all such systems is based on that gas-dynamic description of a compressor at permanent speed of rotation, and permanent weight of gas has an only point on the border of surge.

In most practical cases the decision of problem of anti-surge defence is taken to non-admission of approaching of the mode of operations of a compressor to the border of surge due to adjusting of parameters of a compressor (pressure, gas expense...) by means of flowing of gas from the supercharger of a compressor to suction by means of opening of bypass faucet.

A process of integration of practically any functional units, executed by one developer in the systems managements, that is executed by other developers, is in itself by a conflict. Therefore the process of such integration is understood as a process of power introduction. Such introduction is always fight against obstacles. A reason of these conflicts is not always clear .

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