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Magnetic technologies are applied in many industries as methods for the solution of ecological problems. The proposed magnetic filter may have a broad application in chemistry, metallurgy, mechanics, power engineering and biological industry. It can be used for purification of fluid mediums, and natural and sewage water from ferromagnetic and nonferromagnetic impurities.

The filter contains the nonferromagnetic package, the magnet system, creating a permanent magnetic field, the nipples for input and output of a treated fluid. The system of heads is placed inside the filter. It consists of parallel plates with ferromagnetic balls, fixed on them. The distinctive feature of the filter is the fulfillment of the condition of disposition of the separate elements of heads as a square lattice at distance equal to  $2 \cdot X_z \cdot A$  from each other, where

$X_z$  - maximum catching distance in terms of radius of the element of ferromagnetic head for the certain parameters of the medium;

A - radius of the single element of ferromagnetic head.

In case of optimal placement of the elements of ferromagnetic heads, the catching regions of each element intercept so that any nonferromagnetic particle falls in the catching region of the elements of heads. Therefore, the filter will catch maximum quantity of impurities. The placement of the head elements on the greatest possible spacing intervals allows to decrease a hydrodynamic resistance of fluids. It allows to reduce to a minimum a quantity of single elements of ferromagnetic heads and provides an indispensable degree of purifying a treated fluid, saving an efficiency of impurity catching.

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