

The invention relates to exhaust systems used in motor vehicles, in particular to devices for recirculation and cleaning of exhaust gases from solid fractions and toxic gases of internal combustion engine.

The device, according to the invention, comprises a chamber (4), the inlet of which is connected to an exhaust manifold of the internal combustion engine, and the outlet – to the inlet of a filter element (1), connected to an intake manifold of the internal combustion engine. The chamber (4) is equipped with nozzles directed tangentially to the inner wall of an energy separation chamber (8) of a vortex tube (2), formed of a metal corona-forming electrode (7), made in the form of a spiral, and a metal pulse electrode (9), attached to the end a conductive rod (6) covered with an insulating layer, which communicates with a conical valve (5) driven by a coil (11) and placed at the hot end of the vortex tube (2), on which is installed a chamber, connected to a muffler. The conductive rod (6) is connected to a high-voltage pulse current converter (10), connected to a storage battery, to which the coil (11) is also connected by means of a control unit (12) of the internal combustion engine. The filter element (1) is equipped with electric heating elements (13), connected via a relay (14) to the storage battery.

Claims: 1

Fig.: 2

