

A beltless roller magnetic separator relates to manufacturing equipment of the processes of magnetic separation of slightly magnetic fine dispersed products and can be used in mining, glass, ceramic and other branches of industry. The magnetic separator includes a magnetic roller installed with possibility of rotation, which magnetic system consists of annular or disk axial magnetized permanent magnets separated by annular or disk ferromagnetic concentrators, to which adjacent permanent magnets fit closely by similar poles, installed along the magnetic roller purifying device for removal of the particles of magnetic fraction of the product, which is subject to separation, precipitated thereon from the roller working surface, feeders, distributors and receivers of separated product. In the separator the cleaning device is of magnetic-induction type in the form of a continuous ferromagnetic body with protrusions pointed to the surface of roller, through which along the roller the magnetic fluxes of the system of permanent magnets of roller are closed, which magnetic interaction with protrusions of ferromagnetic body creates along the axis of roller the magnetic forces of field directed from the working surface of roller toward the pointed protrusions of ferromagnetic body. The ferromagnetic body can be in the form of a ferromagnetic cylinder installed with possibility of rotation with longitudinal teeth cut on its surface or a thread or cone-shaped pins. Also disclosed is an embodiment of a cleaning device in the form of fixed teeth or pins installed along the magnetic roller completed by a feed system of air under pressure or water into the space between the working surface of magnetic roller and cleaning device. The invention provides for simplification and reduction of cost of the process of magnetic separation, in which the roller magnetic separators are used.