

Title (en)
DIAPHRAGM PUMP HAVING A POROUS, ARCHED ALUMINUM FILTER

Title (de)
MEMBRANPUMPE MIT PORÖSEM, GEWÖLBTEM ALUMINIUMFILTER

Title (fr)
POMPE À MEMBRANE DOTÉE D'UN FILTRE EN ALUMINIUM CINTRÉ ET POREUX

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Application
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Abstract (en)
[origin: WO2018036995A1] The invention relates to a diaphragm pump for fluidizing, pressurizing, and conveying products in the form of dust, such as coal dust, by means of inert gas having pressures of up to 7 MPa, which diaphragm pump has a porous, arched loosening element made of aluminum and optionally a dual diaphragm. In the case of the diaphragm pump according to the invention having said loosening element, it is ensured that fluidizing gas is supplied and distributed uniformly in the lower region of the dust pump. The invention permits structural design of the dust chamber, the contour of which dust chamber is particularly advantageously adapted to the deflection of the diaphragm and possibly to the guide rod of the diaphragm. Uniform and reversible deformation of the diaphragm with as little wear as possible is thereby achieved. After the discharge operation of the diaphragm pump has ended, largely planar contact of the diaphragm (3) on the arched, half-shell-shaped loosening surface (5) can be achieved. By means of this advantageous embodiment, a small dead volume can be achieved, leading to a minimal dust chamber volume (10) together with a high delivery rate and a small high-pressure gas loss.

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