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54) ABRASION RESISTANT GAS SEPARATOR

(57) Abstract:

FIELD: oil and gas production.

SUBSTANCE: invention refers to pump equipment engineering and can be implemented at production of oil with high contents of gas and abrasive particles. The gas separator consists of a cylinder case and a shaft whereon an input unit, a pressure unit, a separating unit and a unit of separated gas withdrawal into annular space are arranged successively downstream. The pressure unit is made in form of at least one axial step consisting of a working wheel in form of a bushing with blades and of a directing device. Minimal angle of the working wheel between tangent to a skeleton line of the blade and plane perpendicular to rotation axis increases 1.2-4.0 times in the direction from flow inlet to outlet. Length of flowing channels of the working wheel measured along its external cylinder surface corresponds to 1-4 of wheel diameter; number of blades does not exceed 4. Ratio of bushing diameter to wheel diameter equals to 0.4-0.9. Meridian section of the wheel converges from inlet to outlet with convergent angle not more, than 15° .

EFFECT: designing gas separator operating in fluid with abrasive particles trouble-free over long period of time.

4 cl, 4 dwg