

# DESIGN OF COMPRESSOR UNIT BASED ON WAVE COMPRESSOR WITH MAGNETOELECTRIC DRIVE FOR EXTRACTION OF HYDROCARBONS IN ARCTIC SHELF

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For the use in such extreme working conditions as underwater offshore production on the Arctic shelf, the use of fundamentally new types of compressor units is required. The efficiency criteria for the Arctic gas-producing complexes are satisfied by a compressor based on the gas-dynamic vibration scheme, the principle of kinetic compression and volumetric gas injection during oscillatory movement of the piston-nozzle in the sound frequency range. The advantage of the compressor is the complete absence of mechanical friction of the structural elements. The paper considers a multi-stage scheme of a wave compressor with a magnetoelectric drive for the extraction of hydrocarbon raw materials and a calculation analysis of the latter's performance based on the calculation of a magnetoelectric compressor kinetic compression and volumetric injection as an analogue of a wave compressor.

**Keywords:** underwater oil and gas production, arctic shelf, wave compressor, compressor-pumping unit, linear drive.

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