

Title (en)
MEMBRANE COMPRESSOR

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Application
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Abstract (en)
[origin: EP0263199A1] A diaphragm compressor has a compressor housing (1) comprising a bottom section (2) and an upper section (3). A flexible diaphragm (5) is inserted between a bottom diaphragm disc (7) and an upper diaphragm disc (8) and projects laterally. The diaphragm (5) is firmly clamped by its edge (6) between the bottom section (2) and upper section (3) of the housing. A connecting rod (12) produces a lifting motion of the diaphragm (5) and the adjacent diaphragm discs (7, 8). This compresses a medium in a working chamber (15). Below the diaphragm (5) is a piston chamber (18) in the lower section (2) of the housing. The diameter of the working chamber (15) formed in the upper section (3) of the housing has a greater diameter than the piston chamber (18). The diameter of the bottom diaphragm disc (7) is distinctly smaller than the diameter of the piston chamber (18). As a result an annular gap (20) is left between the bottom diaphragm disc (7) and the opposing inside wall of the bottom section (2) of the housing. The diameter of the upper diaphragm disc (8) is thereby at least equal to that of the bottom diaphragm disc (7). The clearance (19) produced at the top dead centre between the upper section (3) of the housing, diaphragm (5) and upper diaphragm disc (8) takes the form of an annular duct and is greatly offset outward in a radial direction in the area of the edge (6) of the diaphragm (5). The proposed diaphragm compressor is outstanding by virtue of an improved characteristic behaviour. The increase in pressure given a reduction in the volume flow occurs much more slowly; the fluctuation in the maximum pressure which can be generated in the working chamber (15) is much less. <IMAGE>

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