Title (en)

COMPRESSOR DEVICE, AND COOLING DEVICE EQUIPPED THEREWITH AND REFRIGERATION MACHINE EQUIPPED THEREWITH

Title (de)

KOMPRESSORVORRICHTUNG SOWIE EINE DAMIT AUSGERÜSTETE KÜHLVORRICHTUNG UND EINE DAMIT AUSGERÜSTETE KÄLTEMASCHINE

Title (fr)

DISPOSITIF COMPRESSEUR AINSI QU'UN DISPOSITIF DE RÉFRIGÉRATION AINSI ÉQUIPÉ ET UNE MACHINE FRIGORIFIQUE AINSI ÉQUIPÉE

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Application

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Priority

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Abstract (en)

[origin: WO2014016415A2] The invention relates to an economical compressor device having an elastic membrane (6) and to a cooling device equipped therewith and a refrigeration machine equipped therewith, wherein working liquid (14) is present on one side of the membrane and the working gas (10) to be compressed is present on the other side of the membrane (6). The membrane is designed as a balloon (6) or bellows (80). Because the gas volume (8) is in the balloon (6) and the liquid volume (12) is outside, the balloon shell is always protected from damage by a liquid film on the hard inner surface (generally made of metal) when the balloon shell rubs on the hard inner surface of the compressor chamber due to irregular operating conditions. Because the working liquid is generally hydraulic oil, the protective effect is additionally improved by the lubricating oil effect. Instead of a balloon (6), a tubular bellows (80) can also be used as the membrane. The bellows (80) has the advantage that the volume enlargement or volume reduction is "directed" in the longitudinal direction of the bellows (80) due to the design and the arrangement of the folds. Therefore, rubbing contact between the bellows (80) and the hard inner surface of the compressor chamber (4) is nearly impossible. Thus, if a bellows (80) is used as the compressor membrane, the gas volume (8) can also be provided inside the bellows. This "directedness" of the volume change can be improved by positive guidance of the bellows (80) along a rod having a longitudinal bearing. The bellows (80) is usually made of a stainless steel alloy and is extremely gas-tight for all relevant working gases (10), the exception being hydrogen.

IPC 8 full level

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