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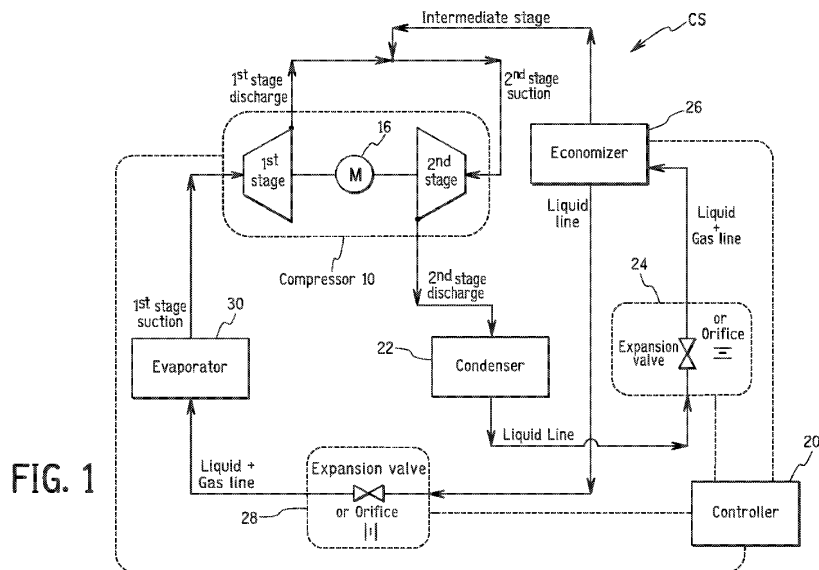
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(54) Title: CENTRIFUGAL COMPRESSOR FOR USE WITH LOW GLOBAL WARMING POTENTIAL (GWP) REFRIGERANT



(57) Abstract: A centrifugal compressor (10) is configured to be used for compressing a low global warming potential (GWP) refrigerant. The centrifugal compressor (10) comprises a casing (12), an impeller (14,32), and a motor (16) for rotating the impeller (14,32). The impeller (14,32) is equipped with blades (18,42) having a fully nonlinear shape in a quasi-orthogonal cross-sectional view. A hub-side blade angle Δ of each of the blades (18,42) from a hub portion (H) of the impeller (14,32) to a mid-span position of the blade (18,42) varies along a streamwise direction such that the hub-side blade angle Δ is largest at a position closer to a leading edge (18a) of the blade (18) than to a trailing edge (18b) of the blade (18). The casing 12 is configured such that the low global warming potential (GWP) refrigerant enters the impeller (14,32) from the inlet portion (34,38) along an axial direction of the impeller (14,32) and exits the impeller (14,32) to the outlet portion (36,40) in a radial direction of the impeller (14,32).

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