

Title (en)

Hermetically sealed scroll type refrigerant compressor.

Title (de)

Hermetisch abgedichteter Spiralkühlverdichter.

Title (fr)

Compresseur de réfrigération du type à volutes hermétiquement étanche.

Publication

EP 0373876 A2 19900620 (EN)

Application

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Priority

JP 31306188 A 19881213

Abstract (en)

A shaft seal mechanism of a vertically installed hermetic type scroll compressor in which an inner chamber of a housing is kept at discharge pressure is disclosed. The compressor in accordance with one aspect of the present invention includes a drive shaft (130) supported by a plain bearing in an inner block member (40). The drive shaft is operatively linked to an orbiting scroll (30) which orbits within a stationary scroll (20). An isolated cavity (70) is defined in the inner chamber of the compressor housing by the stationary scroll and the inner block member. Spiral elements (22,32) of both stationary and orbiting scrolls, a driving mechanism and a rotation preventing mechanism (16) are disposed within the isolated cavity. The isolated cavity is divided into an upper and lower cavities by an end plate (31) of the orbiting scroll. A small aperture (36) is axially formed through the end plate of the orbiting scroll to introduce the intermediately compressed refrigerant gas into the lower cavity from an intermediately located fluid pocket defined by the spiral elements. A mechanical seal (18) is disposed within the lower isolated cavity and is mounted around the drive shaft, thereby preventing discharged refrigerant gas from the inner chamber entering into the lower isolated cavity. Therefore, an axially urging force which acts upwardly on the orbiting scroll is maintained at the constant intermediate refrigerant gas pressure, thereby obtaining an appropriate axial seal of fluid pockets (71) of the scrolls.

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