

Title (en)

Thermocompressor with pressure actuated heating chamber bypass.

Title (de)

Thermoverdichter mit druckgesteuertem Heizraum By-pass.

Title (fr)

Thermo-compresseur avec un by-pass réglé par la pression, pour une chambre de réchauffement.

Publication

**EP 0101565 A1 19840229 (EN)**

Application

**EP 83107126 A 19830720**

Priority

US 40140682 A 19820723

Abstract (en)

A thermocompressor utilizing a modified Stirling cycle is disclosed having a self-oscillating free piston driven by a thermal lag heating chamber connected to the hot end of the cylinder. A cylinder bypass containing a regenerator and cooling chamber provides a coasting region of the cylinder for the piston. The cylinder bypass is connected to the heating chamber via a conduit passing through a nipple in the hot end of the cylinder, with a very thin gap around the nipple to allow thermal lag driving of the cup-shaped free piston by the heating chamber without losing very much compressible fluid along the gap, from the conduit. The small amount of lost fluid is merely not heated thoroughly. During the cooling portion of the Stirling cycle, a check valve and short conduit in the nipple allow the gas in the cylinder hot space to bypass the heating chamber and flow directly through the nipple to the first-mentioned conduit and thence to the regenerator in the cylinder bypass for cooling, thereby avoiding unnecessary fluid drag and heating in the heating chamber during the cooling portion of the Stirling cycle.

IPC 1-7

**F02G 1/043**; **F02G 1/053**

IPC 8 full level

**F04B 31/00** (2006.01); **F02G 1/043** (2006.01); **F02G 1/053** (2006.01)

CPC (source: EP)

**F02G 1/0435** (2013.01); **F02G 1/053** (2013.01); **F02G 2244/50** (2013.01); **F02G 2254/30** (2013.01); **F02G 2255/00** (2013.01); **F02G 2270/80** (2013.01); **F02G 2270/90** (2013.01); **F02G 2280/50** (2013.01)

Citation (search report)

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- [A] FR 2128631 A1 19721020 - SCHUMAN MARK [US]
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