

Title (en)  
VARIABLE INNER VOLUME RATIO-TYPE INVERTER SCREW COMPRESSOR

Title (de)  
WECHSELRICHTER-SCHRAUBENVERDICHTER MIT VARIABLEM INNENVOLUMEN

Title (fr)  
COMPRESSEUR A VIS POUR INVERSEUR DU TYPE A RAPPORT VOLUMIQUE INTERNE VARIABLE

Publication  
**EP 1553300 A4 20090902 (EN)**

Application  
**EP 03751474 A 20031014**

Priority  
• JP 0313117 W 20031014  
• JP 2002301870 A 20021016

Abstract (en)  
[origin: EP1553300A1] Regulating compression capability to a load is performed by an inverter (15) that regulates revolution number of an electric motor (11). This makes unload control in capability regulation unnecessary, preventing operational efficiency from lowering. Further, a capacity control valve for capacity control is eliminated for a simplified valve control mechanism. Regulating a variable inner volume ratio achieves the highest compressor efficiency corresponding to operating condition (capability). When a low inner volume ratio command is issued, a slide valve (19) is moved by a compression section controller (27) in an axial direction toward the electric motor (11). This advances completion time of a compression step to advance discharge of a compressed gas. When a high inner volume ratio command is issued, the slide valve (19) is moved in an axial direction toward a piston (25), which delays time of completion of compression step to delay discharge of a compressed gas. <IMAGE>

IPC 1-7  
**F04C 18/16**; **F04C 29/10**

IPC 8 full level  
**F04B 49/06** (2006.01); **F04C 18/16** (2006.01); **F04C 28/00** (2006.01); **F04C 28/08** (2006.01); **F04C 28/12** (2006.01); **F04C 28/26** (2006.01); **F04C 29/00** (2006.01); **F25B 1/047** (2006.01)

CPC (source: EP US)  
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Citation (search report)  
• [X] JP S59211790 A 19841130 - HITACHI LTD  
• See references of WO 2004036045A1

Cited by  
CN107525319A; EP2287444A1; CN112325502A; US8459963B2; EP3910197A4; US11953006B2; EP3080457B1

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