

HIGH-SPEED, 8 MW, SOLID-ROTOR INDUCTION MOTOR FOR GAS COMPRESSION

Authors

Juha Pyrhönen, Professor, Member IEEE

Lappeenranta University of Technology, Department of Electrical Engineering, P.O. Box 20, 53851, Lappeenranta, Finland, juha.pyrhonen@lut.fi Tel: +358-40-5711 645, fax +358 5 621 6799

Janne Nerg, D.Sc. Member IEEE

Lappeenranta University of Technology, Department of Electrical Engineering, janne.nerg@lut.fi

Panu Kurronen, The Switch Oy, Lappeenranta Finland, panu.kurronen@theswitch.fi

Uwe Lauber, MAN Turbo Zürich and Berlin, uwe.lauber@manturbo.com

Abstract

The suitability of solid rotor technology in a high power output hermetic natural gas compression application was studied. Two new solid-rotor designs for an 8 MW, 6.6 kV, 12000 min⁻¹ and a 10 MW machine were done and the motors successfully tested. The former carries a purely solid, slitted rotor and the latter has a copper cage manufactured of copper bars inserted in solid rotor core drill bores.

Keywords

solid rotor, compressor