

Characteristics and Applications of Hitachi H-25 Gas Turbine

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OVERVIEW: More than 100 orders have been placed for Hitachi H-25 gas turbines from both Japan and various other countries, because of their exceptionally high reliability and efficiency in their class. In addition, they can be used for a wide range of applications, from power and general industrial use to utilization in oil and gas fields. The H-25 is characterized as being heavy-duty, highly reliable, and applicable to cogeneration and combined cycle operations, resulting in higher operational efficiency of the entire system, for which it is highly acclaimed. In one recent application where the worksite was located far from the power supply system, several H-25 gas turbines were used to form an island operation system that was not linked to the main power system. In another application, an H-25 gas turbine was used as a power supply for driving a motor, instead of the mechanical drive system usually based on a small gas turbine. Such applications have been adopted due to the high reliability of the H-25 gas turbine. Hitachi, Ltd. has continued to enhance its H-25 gas turbine as a type of power supply equipment, and thus has contributed to the fields in which it has been used.

INTRODUCTION

THE H-25 gas turbine is an open, simple-cycle, single shaft gas turbine of the 30-MW class.

The H-25 gas turbine offers the following characteristics:

- (1) It is heavy-duty, highly reliable, and ideally suited for continuous operation.
- (2) The system start-up time when used in a simple gas turbine cycle is between 15 and 20 min from

ignition to reaching the rated load, and thus shorter than that in conventional steam power generation. It is therefore applicable for DSS (daily start-up and shut-down) and peak applications.

(3) Based on modern turbine cooling and compressor technologies, the H-25 achieves the highest level of thermal efficiencies in the heavy-duty 30-MW class. It is also one of the models that has achieved the highest level of efficiency as a cogeneration system combined



Fig. 1—H-25 Gas Turbine and General Overview of Sakhalin B Project in Russia. Hitachi delivered four H-25 gas turbine generation equipment units to the Sakhalin Energy Investment Co., Ltd., for use in a land-side plant that processes gas and oil extracted from the seabed off the eastern shore of Sakhalin Island in Russia.

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Lei Huang



Characteristics And Applications Of Hitachi H 25 Gas Turbine:

Aircraft Propulsion and Gas Turbine Engines Ahmed F. El-Sayed, 2017-07-06 Aircraft Propulsion and Gas Turbine Engines Second Edition builds upon the success of the book's first edition with the addition of three major topic areas: Piston Engines with integrated propeller coverage, Pump Technologies and Rocket Propulsion. The rocket propulsion section extends the text's coverage so that both Aerospace and Aeronautical topics can be studied and compared. Numerous updates have been made to reflect the latest advances in turbine engines, fuels and combustion. The text is now divided into three parts: the first two devoted to air breathing engines and the third covering non air breathing or rocket engines. **Hitachi Technology**, 1989

Hitachi Review, 1989 Beginning with the issue of Vol 47 No 2 April 1998 the full page edition of Hitachi Review has been available only on web page in place of the conventional publication. **ASME Technical Papers**, 2000 **Paper**, 2000 ERDA Energy Research Abstracts United States. Energy Research and Development Administration. Technical Information Center, 1977 **ERDA Energy Research Abstracts** United States. Energy Research and Development Administration, 1977 *Clean Steel, Superclean Steel* Jack Nutting, Ramaswamy Viswanathan, 1996 **The Engineering Index Annual**, 1994 Since its creation in 1884 Engineering Index has covered virtually every major engineering innovation from around the world. It serves as the historical record of virtually every major engineering innovation of the 20th century. Recent content is a vital resource for current awareness, new production, information, technological forecasting and competitive intelligence. The world's most comprehensive interdisciplinary engineering database. Engineering Index contains over 10.7 million records. Each year over 500,000 new abstracts are added from over 5,000 scholarly journals, trade magazines and conference proceedings. Coverage spans over 175 engineering disciplines from over 80 countries. Updated weekly. *Electrical & Electronics Abstracts*, 1997 International Aerospace Abstracts, 1996 *Mechanical Engineering*, 1979 **The Japan Science Review**, 1966 **Hydro Power** Joachim Raabe, 1985 *Japanese Science and Technology*, 1988 Papers Presented at the AIAA/ASME/SAE/ASEE 25th Joint Propulsion Conference, 1989 **Official Gazette of the United States Patent and Trademark Office**, 1993 Government Reports Announcements & Index, 1993 *Engineered Materials Abstracts*, 1991-05 Japanese Technical Periodical Index, 1987

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