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Overhauling of screw compressor for 1.3 kW/4.5 K capacity Helium Refrigeration / Liquefaction (HRL) Plant at IPR

Content :

Abstract

At IPR, 1.3 kW at 4.5 K helium refrigeration/liquefaction (HRL) plant is operational since 2004. This plant consists of three helium gas screw compressors. Recently, we have observed abnormal noise and vibration from one of Helium Screw Compressor manufactured by Mycom Japan during 2003. After inspection and witness from Indian OEM M/s. Mayekawa India Pvt. Ltd., Gurgaon, Haryana, it was clear that the outcome of their inspection services was that there was damage observed in the drive-end bearing side. This needs overhauling in terms of replacement of the drive end side bearing along with the essential mandatory spare parts. It is also confirmed that the compressor has crossed its operation hours of 20,000 and thereby, it is essential to carry out overhauling activities. M/s. Axima Refrigeration, France is authorized service agent for the same. Hence, we have carried out overhauling activities in collaboration with M/s. Axima Refrigeration service engineer. After overhauling activities of compressor, the run test was taken and demonstrated the successful test results. In this paper, we will report experiences and observations with relevant photographs during overhauling activities.

Key Words: Screw Compressor, Helium, Bearing, Shaft and Overhauling

Summary :

To share the maintenance and overhauling problem of Helium Screw Compressor for 1.3 Kw @4.5 K for refrigeration cum liquefaction (HRL) at IPR. To share experience and observations while overhauling of Helium Screw Compressor.

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