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Commissioning and Operational Results of the 12 GeV Helium Compression System at JLab

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The new compressor system at Jefferson Lab (JLab) for the 12 GeV upgrade was commissioned in the spring of 2013 and incorporates many design changes, discussed in previous publications, to improve the efficiency, reliability and maintainability as compared to previous compressor skids used for this application. The 12 GeV helium compression system has five compressors configured with four pressure levels supporting three pressure levels in the new cold box. During compressor commissioning the compressors were operated independent of the cold box over a wide range of process conditions to verify proper performance including adequate cooling and oil removal. Isothermal and volumetric efficiencies over these process conditions for several built-in-volume ratios were obtained. This paper will briefly discuss the minor modifications/improvements incorporated into the skids and will summarize the analysis of the test data obtained.

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