

MICROTURBINE AND METHOD OF MANUFACTURE

ABSTRACT

A microturbine comprising a turbine, a compressor, and an electric generator operating on a single shaft. The microturbine is designed segmenting the assembly into three subassemblies: a micro turbine engine subassembly, a turbine air sourcing housing subassembly, and a compressor air supply and electronics subassembly. The configuration enables efficient assembly, maintenance and repairs, as the operational components can be diagnosed at a high level and the subassembly can be exchanged quickly to optimize uptime. The micro turbine engine subassembly includes an integrated ceramic compressor and turbine assembly and a generator installed in a single unit that is slideably inserted within an interior of the turbine air sourcing housing subassembly. The compressor air supply and electronics subassembly is assembled to a respective end of the turbine air sourcing housing subassembly. The microturbine creates compressed air, heated air, and electrical power.

Fig. 1