



Heavy-Duty Gas Turbine Flange-to-Flange Solution

Strengthen reliability and recapture performance, cost-effectively

In today's budget constrained environment, GE recognizes your need to deliver on industry demands for reliable, flexible power by realizing the most value from your existing plant assets. A gas turbine **Flange-to-Flange** upgrade can be a more cost-effective solution to increase your site's reliability, extend maintenance intervals, reduce emissions, lower fuel costs, and increase output to meet your specific operational needs. Addressing multiple operational needs through a single Flange-to-Flange upgrade can be far more cost-effective than replacing turbine components and systems across multiple outages.

Flange-to-Flange upgrade scope and options

A Flange-to-Flange solution encompasses full replacement of an existing gas turbine core engine with a new production engine. This scope includes:

- Unit rotor
- Casings
- Compressor blades and stators
- Combustion system
- Turbine system and blades
- Exhaust frame
- Any specific modifications that may be required to accommodate an existing installation

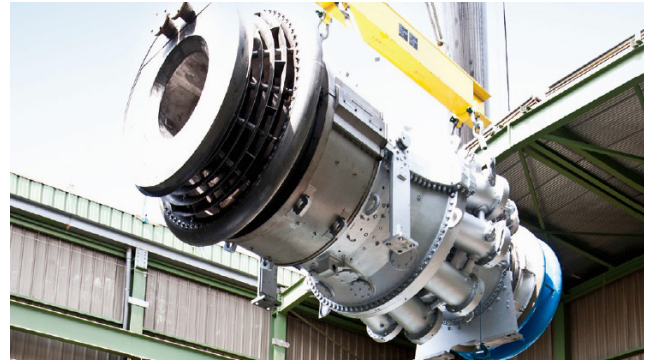
Additional options include:

- Dry Low NO_x (DLN) combustion system
- Dual fuel and alternative fuel capability
- Piping and auxiliaries
- Inlet filter house
- Inlet and exhaust plenums
- Motor control center (MCC)
- Mark VIe Integrated Control system
- Select OpFlex* solutions

Benefits

Implementing a Flange-to-Flange solution brings all of the technical advancements and reliability of a new unit within the timeframe of an outage.

- Improves reliability and extends maintenance intervals
- Expands flexibility to operate in peak and cyclic environments
- Lowers fuel costs through reduced heat rate
- Lowers maintenance costs and extends asset/plant life
- Recaptures lost performance with output increase
- Reduces emissions
- Alleviates rotor end-of-life concerns



Short-cycle installation within your existing footprint

The Flange-to-Flange solution ensures that the replacement unit is installed within the footprint of the existing unit while minimizing the disruption to the Balance of Plant. As a reliable power provider, you can also realize value with a Flange-to-Flange solution by leveraging local GE resources for on-site expertise to reduce your outage time and installation cycle. When GE engineering and project management support, removal of the old unit and installation of the new unit can be achieved in as little as 15 days.

Application and latest technology

The Flange-to-Flange solution is available across GE's heavy-duty gas turbine portfolio, including 6B, 6F, 7E, 7F, 9E, and 9F frames.

Frame	Power Generation**			Mechanical Drive	
	Output (MW)	Heat Rate (Btu/kWh)	Efficiency	Output (hp)	Heat Rate (Btu/shp-hr)
6B	43.0	10,724	33.1%	57,550	7,596
7EA	89.0	10,340	32.7%	116,230	7,720
9E	127.6	10,100	34.1%	174,520	7,350
6FA	77.1	9,636	35.5%	** Simple cycle	
7F 3-series	185	8,953	38.1%		
7F 5-series	216	8,817	> 38.7%		
7F 7-series	250	8,530	> 40%		
9F 3-series	261	9,250	37.3%		
9F 5-series	290	8,855	38.5%		
9F 7-series	330	8,526	> 40%		

To learn more about this offering, contact your GE sales representative or visit powergen.gepower.com.