

DOCKETED

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New Gas Turbine Technology

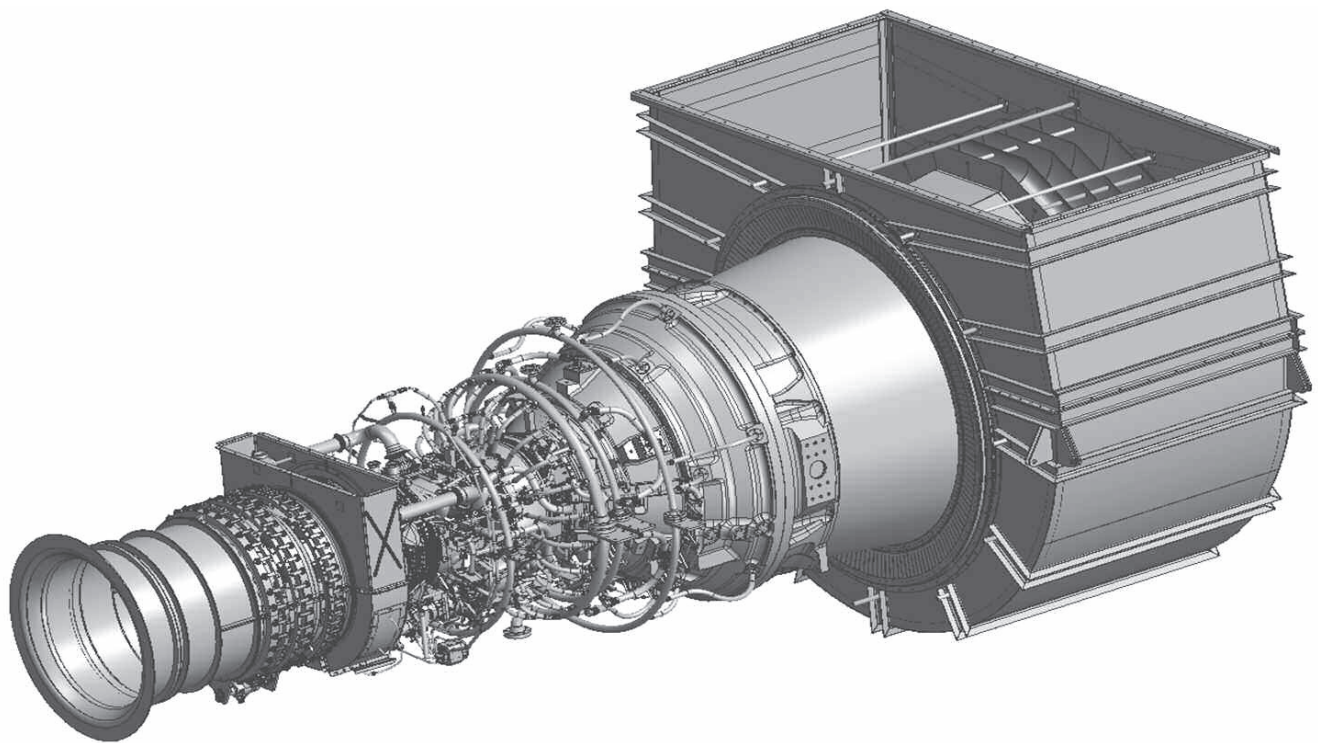
See attached pdf for a brochure of our new Gas Turbine Technology.

Additional submitted attachment is included below.

FT4000™ SWIFTPAC® Gas Turbine Package

The FT4000™ SWIFTPAC® gas turbine package is available in both single- and twin-engine configurations, which offer greater than 41 percent simple-cycle efficiency and a nominal 60 or 120 megawatts of power within a modular design that is built utilizing over fifty years of aeroderivative packaging experience. Utilizing the core technology derived from the proven Pratt & Whitney® PW4000™ turbofan engines, the all-new SWIFTPAC® gas turbine packages are designed to provide reliable peaking and base-load power with a relatively compact footprint. This is accomplished by coupling either one or two FT4000™ engines to one electric generator. The modular design includes proven features of the successful FT8® SWIFTPAC® and MOBILEPAC® gas turbine package designs.

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Features

- One (1) aeroderivative engine (60 MW) or two (2) aeroderivative engines (120 MW)
- Single- or dual-engine configuration
- Modular design
- Maximum factory assembly
- Optimized shipping sizes
- Proven industrial components
- Integrated ancillary systems
- Control enclosure with power distribution
- Prefabricated field piping
- Interconnecting quick-disconnect cables
- Standard option packages

Benefits

- Reduced transportation time and cost
- Limited on-site inventory
- Minimal installation time
- Efficient commissioning
- Low installed cost – high overall value
- Operating flexibility
- High part-load efficiency
- <10-minute start-up time
- Quick engine changeout
- Design flexibility to meet customer needs

Performance

- 120 MW nominal output in twin-engine configuration
- Wet compression for improved performance above ISO conditions
- Highest power output by any aeroderivative GT package
- Single- or dual-engine operation
- 50- or 60-Hz performance with no penalty
- >41% thermal efficiency without external cooling



FT4000™ SWIFTPAC® Gas Turbine Package

Scope of Supply

GT Enclosure Assembly

One (1) per aeroderivative engine

- Gas generator, GG4000-1
- Power turbine, PT4000-1
- Exhaust diffuser and collector box
- Diaphragm-type coupling
- Engine base
- Structural base frame with drip pan
- Acoustic/weather enclosure
- Combustion air inlet plenum
- Engine removal system
- Fuel control module
- Ignition system
- Synthetic lube oil system
- Hydraulic start system
- Hydraulic control oil system
- Bleed air system
- Buffer air system
- Ventilation air system
- Off-line water wash system
- Vent and drain system
- Fire protection system

Fuel System Configurations

- Gas fuel
- Liquid fuel
- Dual fuel
- Water injection NOx control

Electric Generator Assembly

One (1) per package

- Open-ventilated, air-cooled generator
- Brushless excitation system
- Lineside cubicle
- Neutral cubicle
- Rotor ground detection system
- Acoustic/weather enclosure
- Inlet and exhaust cooling air silencers
- Generator instrumentation

Control Enclosure

One (1) per package

- Turbine control cabinets
- Gas turbine digital control system
- Vibration monitoring system
- Multifunction protection relays
- Motor control centers
- Auxiliary power distribution
- Fire protection cabinet

Major Field Assemblies

- Inlet filter houses, two-stage
- Combustion and ventilation air inlet silencers
- Ventilation air exhaust silencer
- Prefabricated field piping
- Quick-disconnect electrical cables
- Modular cable tray system

Auxiliary Skid Assemblies

- Mineral-oil-lubricating oil skid
- Gas fuel filter skids
- Liquid fuel boost pump skids
- Water injection boost pump skids
- Battery skid
- Fire suppression skids
- Water wash pump cart

Standard Options

- Air-cooled heat exchangers
- Evaporative cooler system
- Inlet fogging system
- Wet compression system
- Modular exhaust stacks
- Reduced far-field noise
- Fire suppression: Electric generator enclosure, power control enclosure, gas turbine enclosure
- 15 kV generator breaker
- Auxilliary transformer

Available Services

- Permitting support
- Balance of plant (BOP) engineering and procurement
- Installation technical support
- Construction management and labor
- Operation and maintenance