

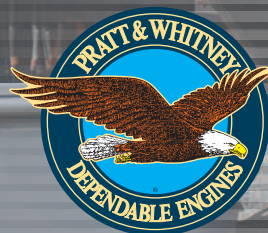
Pratt & Whitney
Power Systems

MOBILEPAC[®]

Gas Turbine Package

MOBILEPAC[®]

It's in our power.[™]



Pratt & Whitney FT8® MOBILEPAC® Gas Turbine Package

The MOBILEPAC gas turbine package requires the smallest footprint in the industry, utilizing as little as 25-foot by 60-foot space. Very little advance site preparation is required for the siting, and no foundation or concrete pad is necessary for installation of the unit. The unit is transportable by land, sea or air to anywhere in the world, allowing worldwide delivery of the MOBILEPAC gas turbine package within 24 hours.

25 MW of Mobile Power

The MOBILEPAC® gas turbine package was introduced more than 30 years ago with the FT4 engine. After many successful years of operation, the MOBILEPAC gas turbine package now utilizes the FT8® engine and offers 25 MW of moveable power. Utilizing the proven SWIFTPAC® gas turbine package technology, this package is designed to provide quick, reliable power and is especially useful in emergency situations.

The MOBILEPAC gas turbine package design includes two trailers. The first contains the gas turbine, electric generator, exhaust collector, diffuser and engine lube oil system. The second trailer carries the 15 kV switchgear, control system, operation panel, protective relays, batteries and charger, motor control center and the hydraulic start package. Compared to a typical 21-day installation and commissioning cycle for the SWIFTPAC gas turbine package, the MOBILEPAC gas turbine package can be driven to a site and begin generating power in less than one day.

Pratt & Whitney. **It's in our power.™**

Benefits

- Ready for emergency power within one day (site ready)
- Environmentally compatible
- Dual fuel/Dual frequency
- Optional black start capability
- Flexible trailer siting
- Highway compatible
- Three-point support and structural rigidity to maintain generator alignment
- Remote operation
- Leasing options available

Product Facts

| | |
|---------------|----------------------|
| Output (kW) | 25000 |
| Base engine | FT8 |
| # of Trailers | 2 |
| Installation | 8 hours (site ready) |
| Noise | 95 dba at 1 meter |
| NOx/CO | 50/100 mg/m3 |
| Grid | 50 or 60 Hertz |
| Fuel | Liquid or Gas |



Scope of Supply

FT8-3 MOBILEPAC® Gas Turbine Package Power Island Dual Fuel Water Injection Power Trailer

Gas Turbine Package

- Gas generator (GG8-3 core engine)
- Power turbine
- Diffuser
- Collector box
- Exhaust transition
- Fabricated gas turbine base and mount assembly
- Coupling connecting power turbine and generator
- Hydraulic starting motor
- Ignition system
- Off-line compressor internal water wash system
- Lube oil system
- Fuel supply system
- Buffered air system
- Water injection NOx control system
- Gas turbine enclosure with three point jacking and leveling system
- Two-stage inlet air filter with weather protection
- Inlet silencing
- Exhaust stack
- Quick disconnect electrical interface

Generator Package

- Brush open ventilated; air-cooled synchronous generator or equivalent
- Brushless exciter assembly
- Stator heaters
- Neutral ground transformer/resistor
- Current transformers
- Stator RTDs
- Vibration probes
- Bearing drain RTDs
- Bearing metal RTDs
- Hot and cold air RTDs
- Rotor ground detection
- Generator lube oil system
- Enclosure
- Quick disconnect electrical interface

Control Trailer

Control Enclosure with HVAC

- Operator control cabinet
- Monitoring cabinet
- Instrument cabinet
- Unit control cabinet
- Generator protective relay panel
- Motor control center
- Master terminal cabinet
- Rack-mounted, sealed, lead, acid cell batteries
- Battery chargers
- Switchgear module 15 kV class
- CTG auxiliary transformer
- FM200 fire suppression

Hydraulic Starting Package

Field Installation Hardware

- Interconnecting piping and hoses for
 - Hydraulic start
 - CO₂, fuel
- Interconnecting quick disconnect electrical cables for power and signal.
- Access stairs and platforms for power trailer and control trailer
- Piping interfaces
- Special maintenance tools

Options Available

- Equipment erection
- Equipment demolition
- Balance of plant (BOP) design and supply
- BOP design, supply, and install
- Freight

Owner-Supplied Services and Responsibilities

Project and Site Development

- Adequate title and interest, permanent facility permits, construction permits and licensing
- Equipment mounting and mounting hardware
- Provisions of local communication facilities
- Temporary construction staging & secure inventory area
- Access road(s), interior roads and parking areas
- Site prep, leveling and compaction to meet at least 191,521 Pa (4000 lbs per square foot) compressive strength
- Transmission system

Engineering and Construction

- Site engineering
- Site Organization during construction
- Emissions and acoustic testing
- Worker's Compensation, employer's liability or any other local insurance required
- All supervision and craft labor for complete off-loading, inventory, inventory control, storage, erection, installation, checkout, testing and start-up of all non-PWPS supplied equipment and material
- Consumable material for erection works
- Required test prior to startup
- Construction equipment, tools and aids
- Phasing and synchronizing the generator to purchaser's system

Other Responsibilities

- Site survey/plot plan
- Excavation for foundations, pipes, roads, cabling & grounding grid
- Site leveling
- Backfill
- Finish grading
- Surface drainage to and including any collection pond
- Oily water separator
- Sanitary waste disposal
- Plant lighting
- Plant fire protection systems-hydrants, panels and extinguishers
- Intra-communication system
- Site fencing and gates
- Construction water
- Builder's all risk insurance (BAR)

Interface Requirements and Responsibilities

- Natural gas for start-up, testing and operation 475 psig (33 bar), approximately 4700 scfm (2.2m3/sec) per gas turbine
- Injection water for NOx control 5-50 psig (0.3-3.4 bar), approximately 25 gpm (115 L/min) per gas turbine
- Potable water for gas turbine off-line water wash 50 psig (3.4 bar) min, approximately 300 gallons (1150 liters) per gas turbine water wash at 35 gpm (133 L/min)
- Liquid fuel for start-up testing and operation 30-75 psig (2.0-5.1 bar) approximately 36 gpm (136 L/min) per gas turbine
- Electrical ground grid interconnections grounding pads are provided by PWPS on each trailer and aux skid
- Vent and drain maximum flow on oily waste drain is 35 GPM for water wash. Total waste water per wash is 300 gal.
- High-voltage power
- Control system interface/grid signals
- Alternate electrical power supply 255 kW per power island, 380V, 50 Hz, 3-phase for lighting, heating and intermittent auxiliaries

Typical Performance

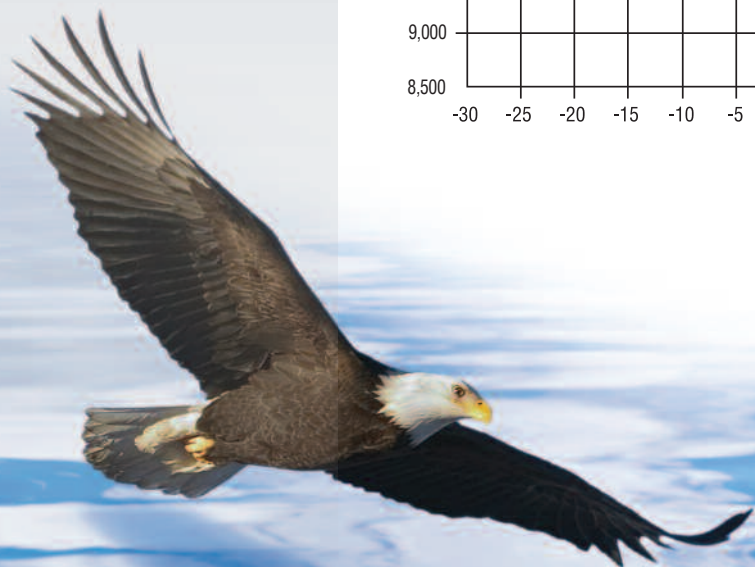
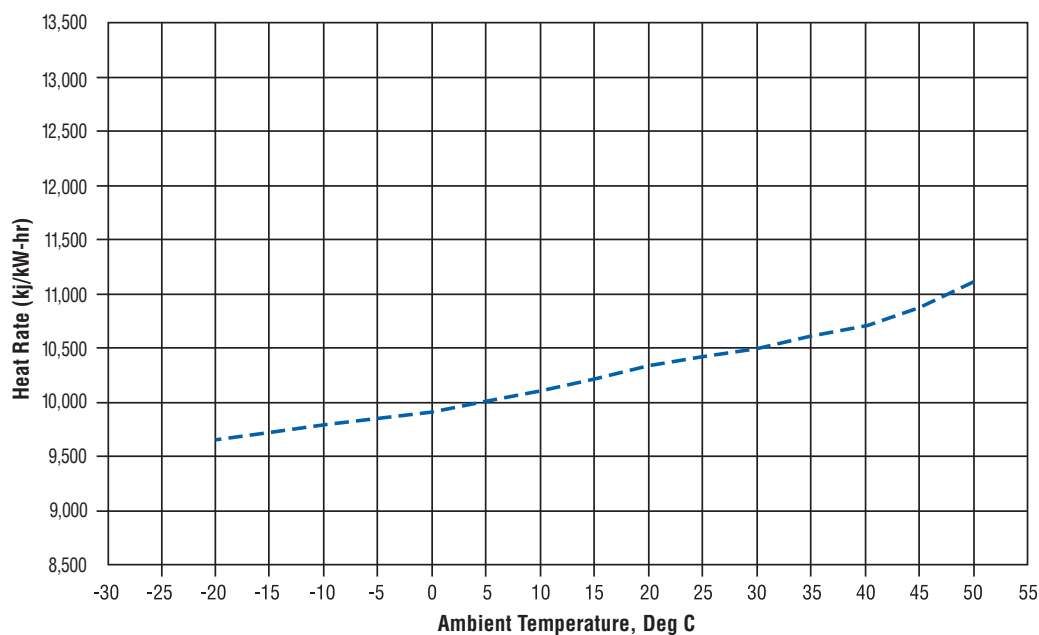
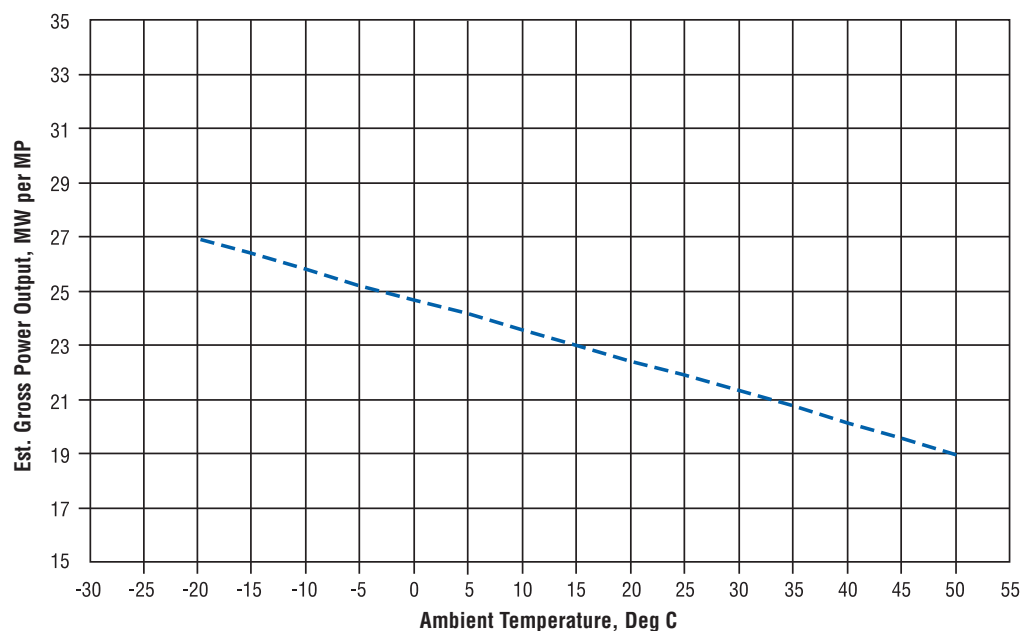
**MOBILEPAC® Gas Turbine
Package 50Hz, 11.0kV, 09Pf**

**Estimated Gross Power Output vs
Ambient Temperature and Heat
Rate vs Ambient Temperature**

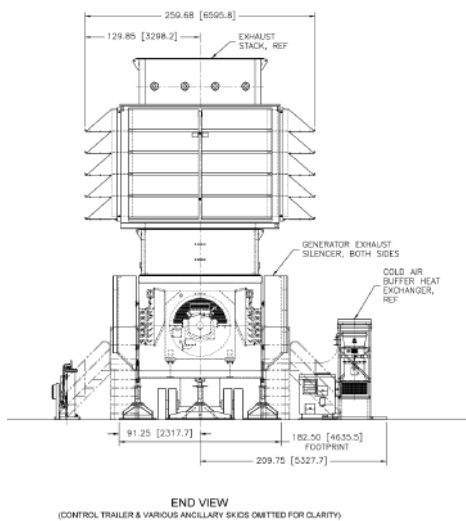
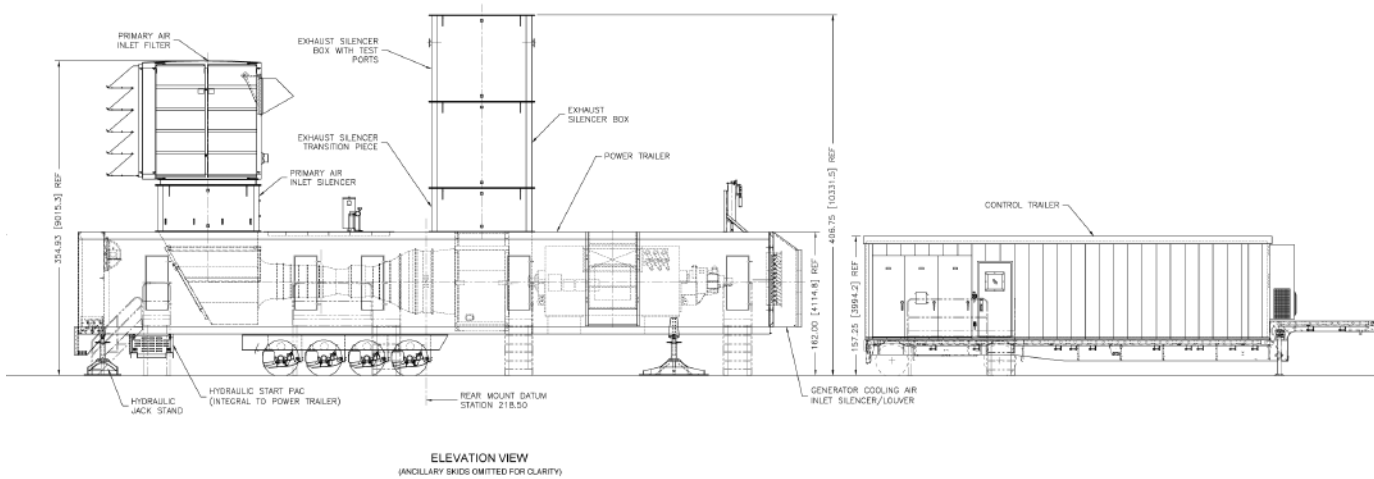
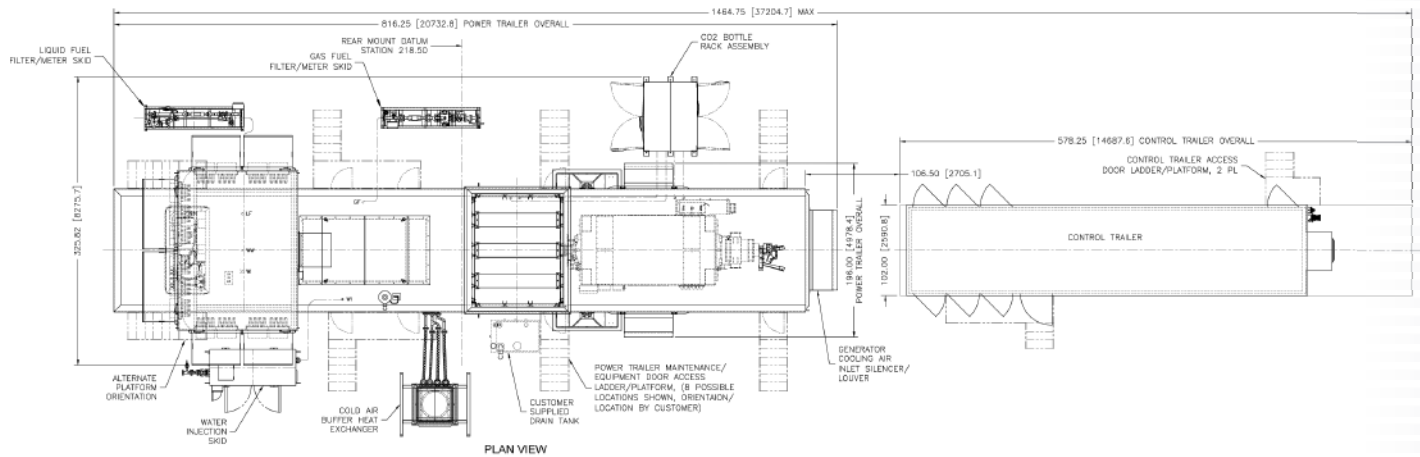
**FT8® MOBILEPAC Gas Turbine
Package, Natural Gas,
WI - 25 ppm NOx**

**Sea Level, 60% RH, 63.5 mm
W.C. Inlet Loss, 25.4 mm
Exhaust Loss**

Gas Fuel 50 Hz Water Injected



General Arrangement Diagram FT8-3 MOBILEPAC® Gas Turbine Package





Pratt & Whitney

A United Technologies Company

Power Systems

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