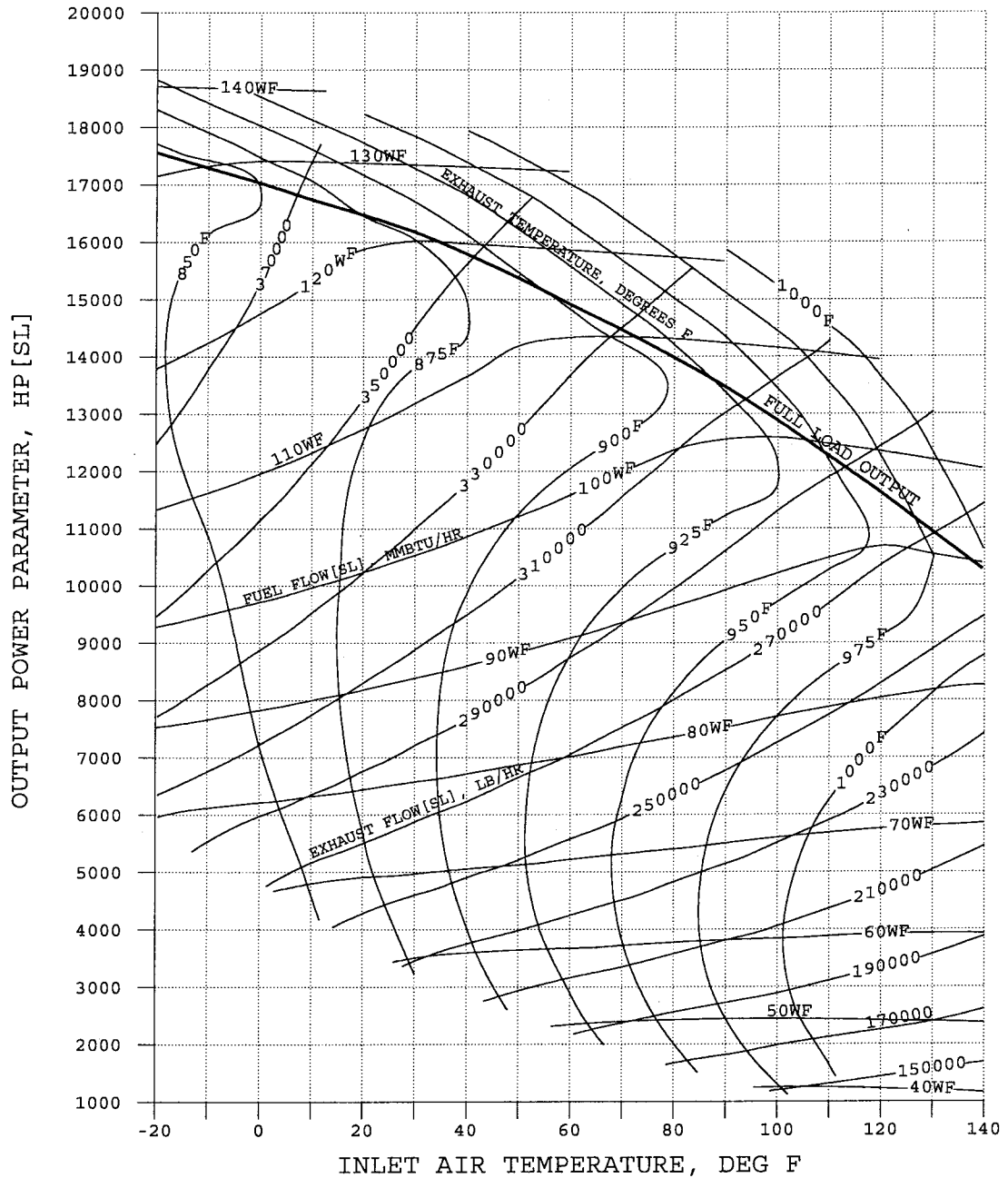


MARS 100S-15000 TMF-2S REV. 3.0
 CS/MD GAS TURBINE
 122F MATCH
 REF: SD-24837[S] SHT. 1
 [DATE: 1-APR-1998]

.NOMINAL PERFORMANCE
 .ELEVATION SEA LEVEL
 .RELATIVE HUMIDITY 60 PERCENT
 .ZERO INLET DUCT PRESSURE LOSS
 .ZERO EXHAUST DUCT PRESSURE LOSS
 .NO GAS PRODUCER POWER EXTRACTION
 .NO WATER INJECTION
 .NO OUTPUT GEARBOX
 .MAXIMUM POWER TURBINE SPEED
 .[LHV: 20610 BTU/LB]

NATURAL GAS FUEL



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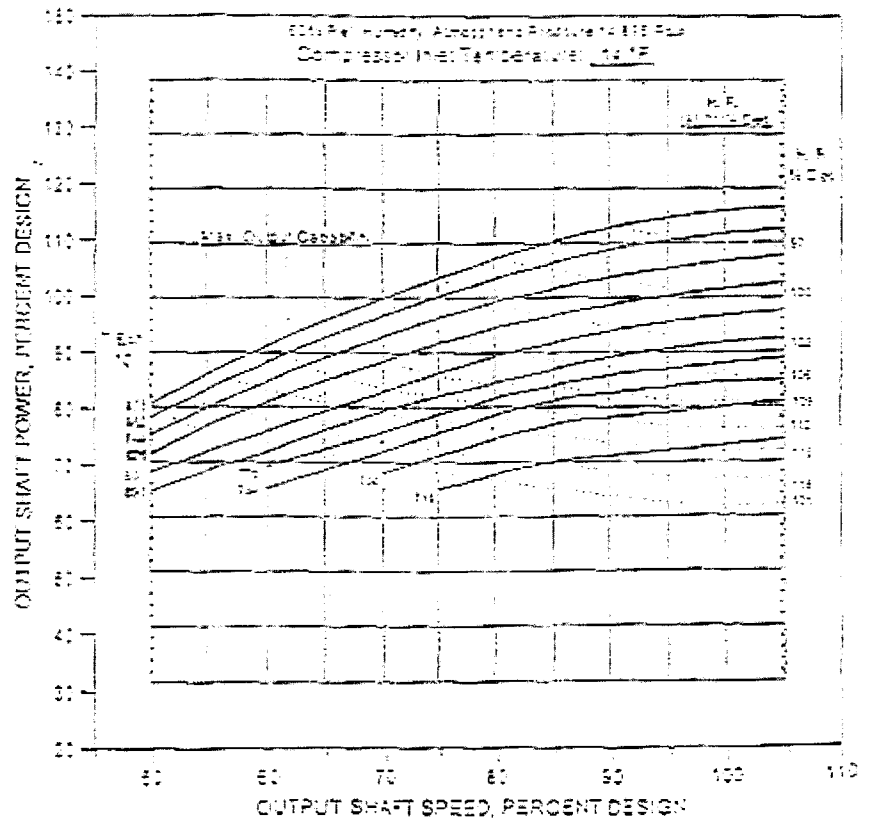
GE 10/2 Performance Maps
Mechanical Drive Applications

GAS TURBINE MODEL GE10/2 DLE
Estimated Performance Mechanical Drive Applications

Gas Type		Max. Inlet Gas
Design Output	HP	10449
Design Heat Rate (LHV)	BTU/HP	7937
Design Exhaust Temp	°F	913
Design Exhaust Press	PSIA	14.7
Design Shaft Rot Speed	RPM	7800
Design Point		Scale 10/100

- NOTES: 1. All data shown on diagram SOM 47898/4-5/10/2
2. Performance measured at the Power Turbine inlet cooling is without inter-cooler
3. All data shown is based on the following assumptions:
a. Fuel gas is dry and contains 2% hydrogen by weight
b. Compressor is Compressor Single Stage
c. All data is for and Exhaust is at ambient conditions

Exhaust	Output	Heat Rate	Exhaust Temp
100 mm H ₂ O Inlet	10.449	7937	913 °F
100 mm H ₂ O Exhaust	10.449	7937	913 °F



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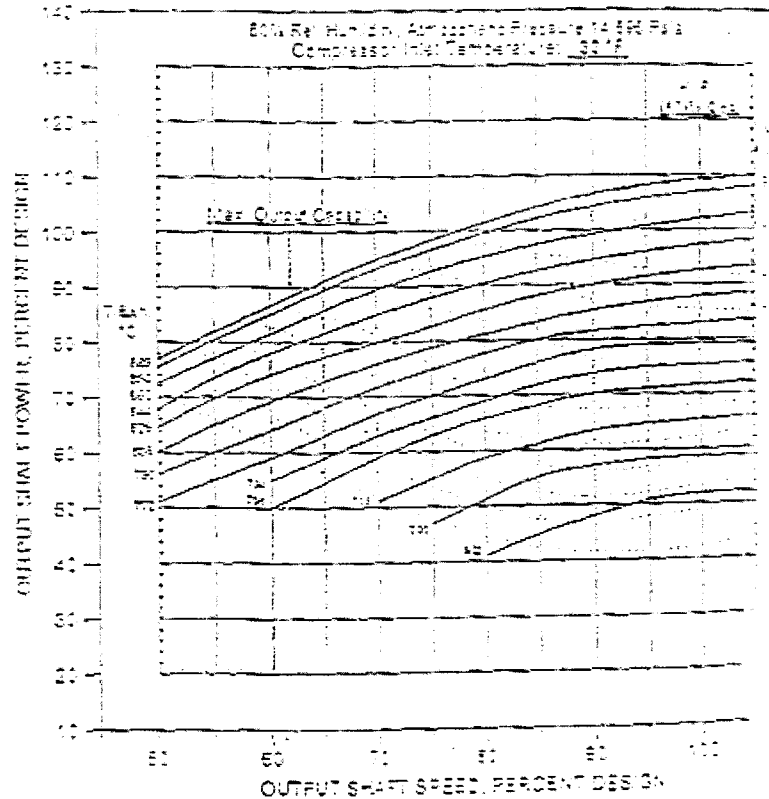
GE 10/2 Performance Maps Mechanical Drive Applications

GAS TURBINE MODEL PGT10B/2 DLE
Estimated Performance, Mechanical Drive Applications

Field Type	Design Value	Design Point
Design Output	40	100%
Design Heat Rate (HHV)	5700 Btu/kWh	7917
Design Exhaust Temp (°F)	17	527
Design Exhaust Flow	100000	100000
Output Shaft Des Speed	5500	7500
Design Point		Sea Level, ISO

- NOTES: 1. Actual engine output = 50% of rated output.
2. Performance measured at the Power Turbine inlet conditions (inlet air and exhaust pressure drop) and exhaust air composition (inlet air and exhaust air).
3. Operation of Compressor: Standard
4. Actual inlet and exhaust air pressure conditions.

Exhaust Temp	Exhaust Flow	Exhaust Rate	Exhaust Temp
100 mm H ₂ O Exhaust	100000	100000	100000
100 mm H ₂ O Exhaust	100000	100000	100000



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1	REVISIONE - REVISION	N	SOM
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REV	DESCRIZIONE - DESCRIPTION		A

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SCHEMI E DISEGNI - REPLACES
SCHEMI E DISEGNI - REPLACES

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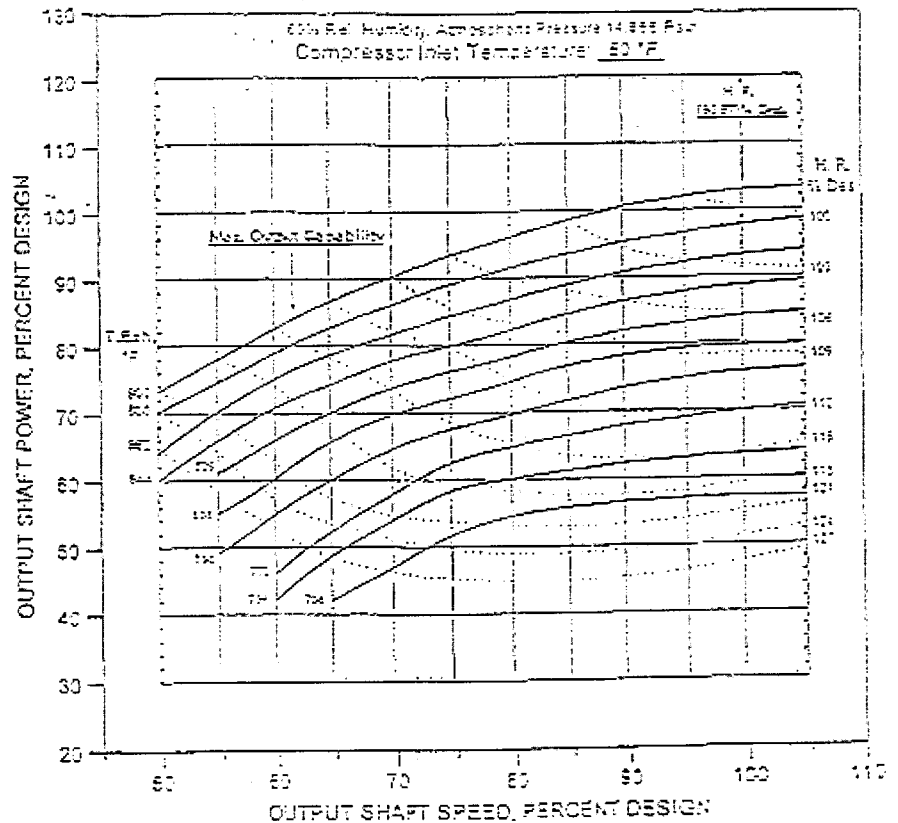
GE 10/2 Performance Maps Mechanical Drive Applications

GAS TURBINE MODEL GE10/2 DLE Estimated Performance, Mechanical Drive Applications

Fuel Type		Natural Gas
Design Output	HP	13445
Design Heat Rate (LHV)	BTU/HP	7517
Design Exhaust Temp.	°F	600
Design Exhaust Flow	Lb/sec	105.02
Output Shaft Des. Speed	RPM	7,500
Design Point		Sea Level ISO

- NOTES: 1. All data shown on diagram, SOM 47893/4 S.N. 2
2. Performance measured at the Power Turbine load coupling with zero inlet and exhaust pressure drops and includes allowances for shaft driven auxiliaries
3. Operation on Compressor Speed Control
4. Additional Inlet and Exhaust pressure loss effects

Effect on	Output	Heat Rate	Exhaust Temp.
100 mm H ₂ O Inlet	-1.8%	+0.54%	+2.5 °F
100 mm H ₂ O Exhaust	-0.6%	+0.33%	+2.5 °F



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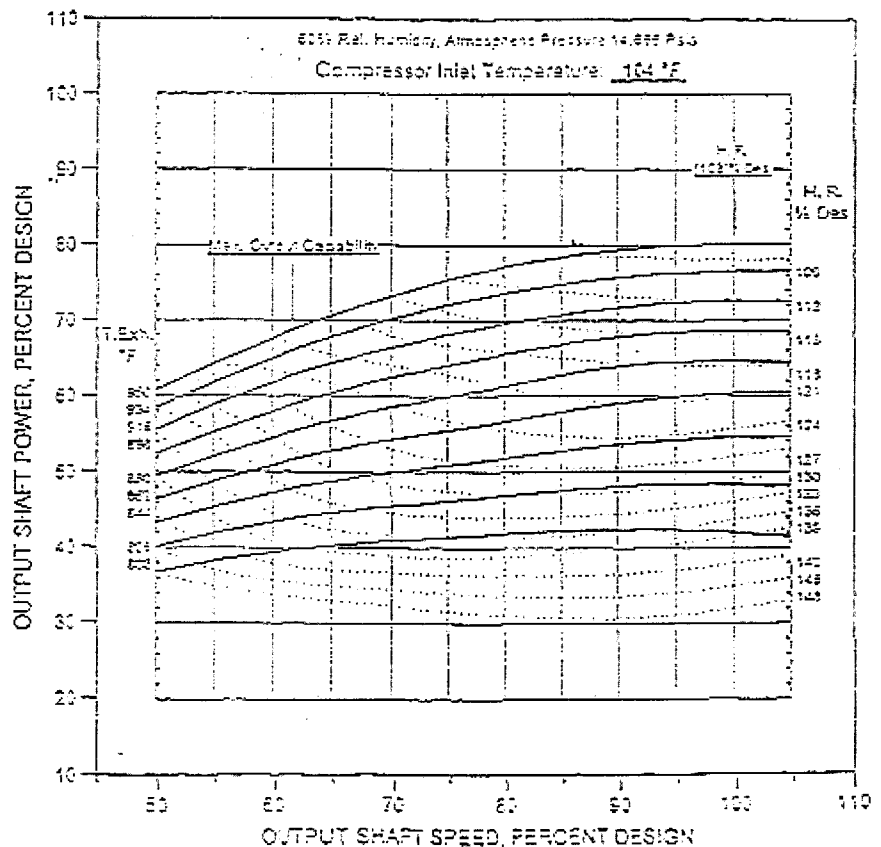
GE 10/2 Performance Maps Mechanical Drive Applications

GAS TURBINE MODEL GE10/2 DLE Estimated Performance, Mechanical Drive Applications

Fuel Type		Approx. Data
Design Output	HP	15448
Design Heat Rate (LHV)	BTU/HP	7357
Design Exhaust Temp.	°F	905
Design Exhaust Flow	Lb/sec	101.25
Output Shaft Des. Speed	RPM	7,800
Design Point		Sea Level, ISO

- NOTES: 1. Altitude effects on diagram SOM 4789S/4 Sh. 1
2. Performance measured at the Power Turbine load coupling with zero transient exhaust pressure drops, and includes allowances for shaft driven auxiliaries
3. Operation on Compressor Speed Control
4. Additional Inlet and Exhaust pressure loss effects:

Effect on	Output	Heat Rate	Exhaust Temp.
100 mm H ₂ O Inlet	-1.5%	+0.64%	+3.5 °F
100 mm H ₂ O Exhaust	-4.5%	+3.80%	+3.5 °F



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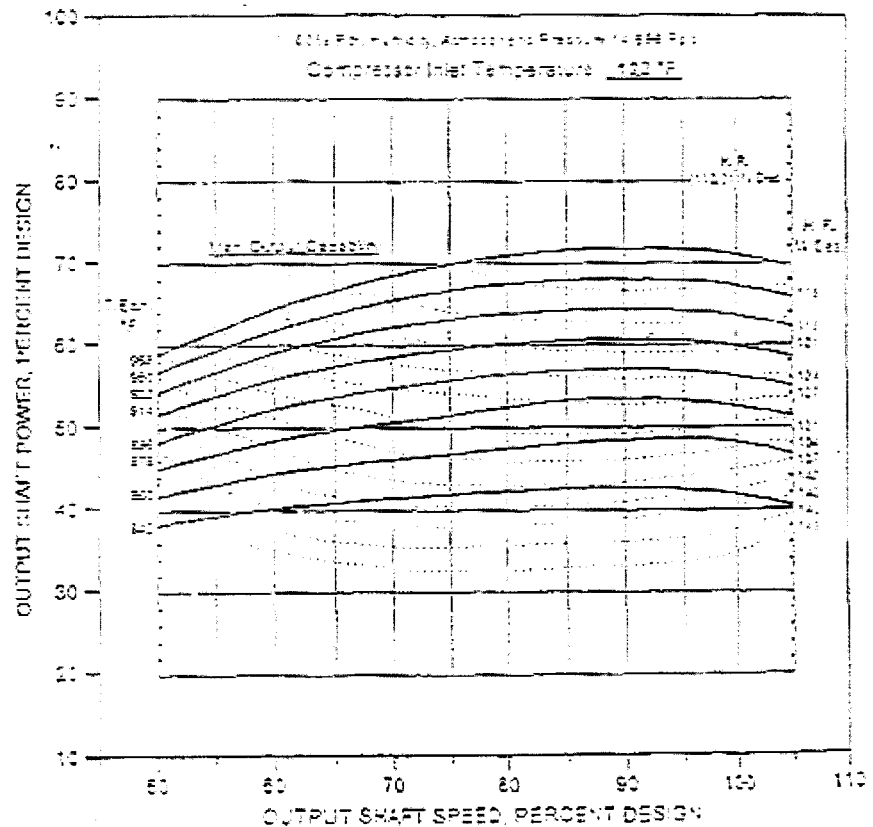
GE 10/2 Performance Maps Mechanical Drive Applications

GAS TURBINE MODEL GE10/2 DLE Estimated Performance, Mechanical Drive Applications

Fuel Type		Design City
Design Output	HP	15448
Design Inlet Air Density	lb/ft ³	750
Design Exhaust Temp	°F	900
Design Exhaust Flow	Lbs/sec	128.20
Output Shaft Des Speed	RPM	7,800
Design Point		Sea Level, ISO

- NOTES: 1. All values are for design SOI 055554-01-0
2. Performance measured at the Power Turbine load coupling with design inlet and exhaust pressure drops and includes a 1% margin for shaft drive losses
3. Correction of Compressor Speed Control
4. Add load line and Exhaust pressure loss effects

Condition	Output	Exhaust Temp	Exhaust Temp
100 mm H ₂ O Inlet	+1.6%	+0.64%	+0.64%
100 mm H ₂ O Exhaust	+0.6%	+0.62%	+0.62%



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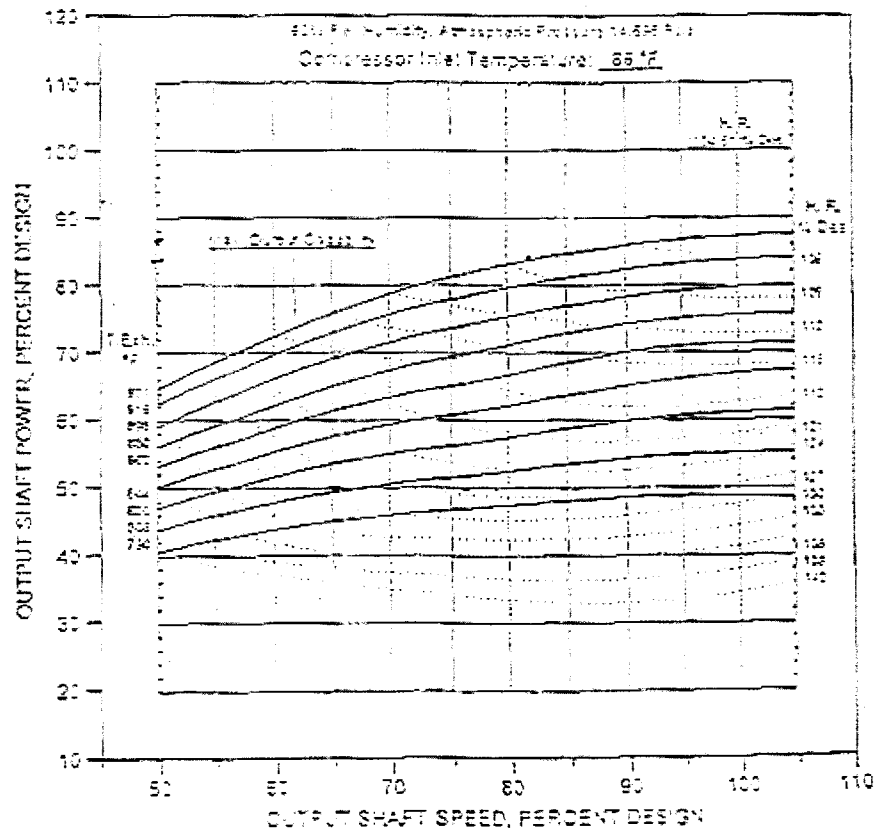
GE 10/2 Performance Maps Mechanical Drive Applications

GAS TURBINE MODEL GE10/2 DLE Estimated Performance, Mechanical Drive Applications

Parameter	Value	Notes
Gas Type	Air	
Compressor Ratio	20.0	
Compressor Efficiency	87.0%	
Compressor Temperature	17	
Compressor Fuel Flow	10.0	
Compressor Inlet Pressure	100.0	
Compressor Inlet Temperature	70.0	
Compressor Inlet Density	0.00237	
Compressor Inlet Humidity	0.01	

- NOTES: 1. Actual shaft and system SOW design Sh. 2
2. Performance measured at the Power Turbine load coupling with the inlet and exhaust ducting fitted and includes allowances for shaft drive auxiliaries
3. Operation at Compressor Speed Control
4. Allowances for inlet and exhaust pressure loss effects

Parameter	Value	Notes	Notes
Compressor Inlet Pressure	100.0%	+0.64%	+0.64%
Compressor Inlet Temperature	70.0%	+0.64%	+0.64%



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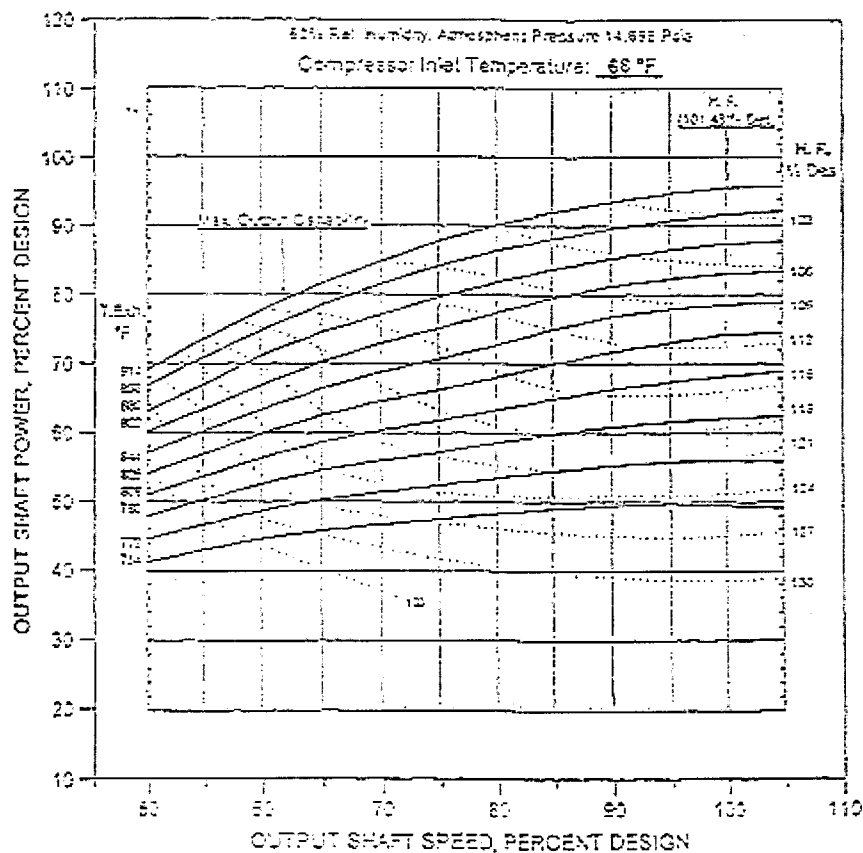
GE 10/2 Performance Maps Mechanical Drive Applications

GAS TURBINE MODEL GE10/2 DLE Estimated Performance, Mechanical Drive Applications

Fuel Type		Normal Gas
Design Output	HP	15445
Design Heat Rate (Btu/HP)	BTU/HP	7887
Design Exhaust Temp (°F)	°F	925
Design Exhaust Flow	Lb/sec	103.33
Output Shaft Des. Speed	RPM	7,500
Design Point		Sea Level, ISO

- NOTES: 1. Assume effects on diagram, SOM 255154, Sh. 2
2. Performance measured on the Power Turbine (no coupling) with zero inlet and exhaust pressure drops, and includes allowances for shaft driven auxiliaries
3. Operation on Compressor Speed Control
4. Additional inlet and exhaust pressure loss effects:

Condition	Output	Heat Rate	Exhaust Temp
100 mm H ₂ O Inlet	-1.6%	+0.64%	+2.5 °F
100 mm H ₂ O Exhaust	+0.5%	+0.50%	+0.5 °F



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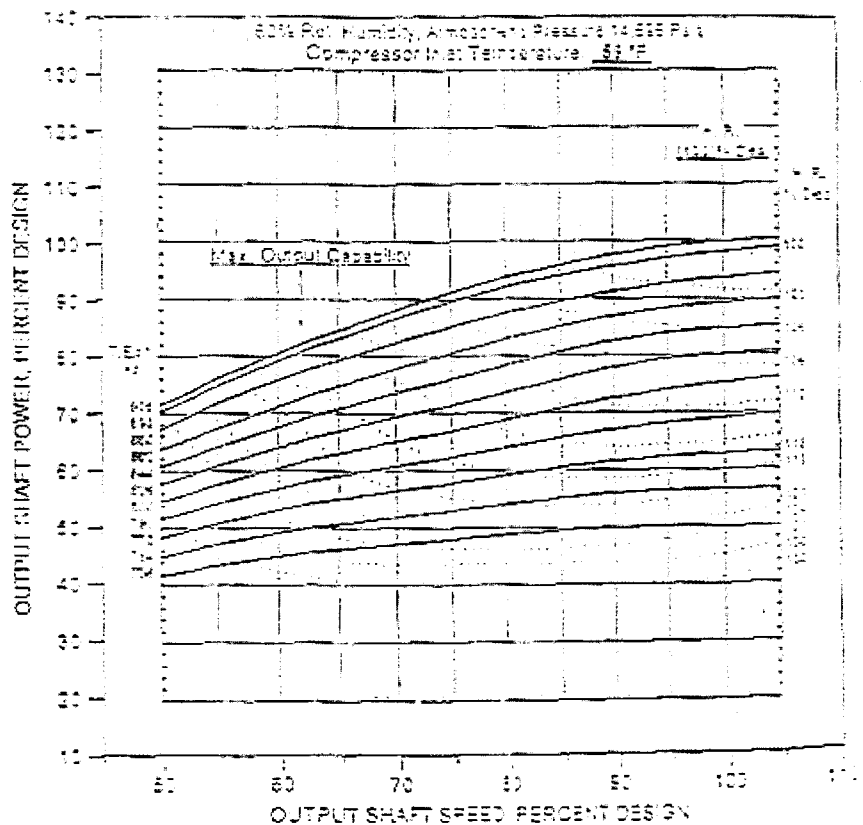
GE 16/2 Performance Maps
Mechanical Drive Applications

GAS TURBINE MODEL GE16/2 DLE
Estimated Performance, Mechanical Drive Applications

Parameter	Value	Units
Rated Type	16/2	
Design Output	100	HP
Design Heat Rate (LHV)	8700	BTU/HP
Design Exhaust Temp.	1100	°F
Design Exhaust Flow	1200	lb/sec
Output Shaft Rot. Speed	4000	RPM
Design P ₀₁	14.7	psia

- NOTES: 1. Actual engine output is 100 HP at 4000 RPM.
2. Performance measured at the Power Turbine load during wide speed range exhaust pressure drops, and includes allowances for stationary conditions.
3. Design on Compressor Speed Control.
4. Accurate inlet and exhaust pressure data charts.

Exhaust	Output	Heat Rate	Exhaust Temp.
100 mm H ₂ O Back	100 HP	8700	1100 °F
100 mm H ₂ O Back	100 HP	8700	1100 °F



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