THE FUTURE OF ENERGY
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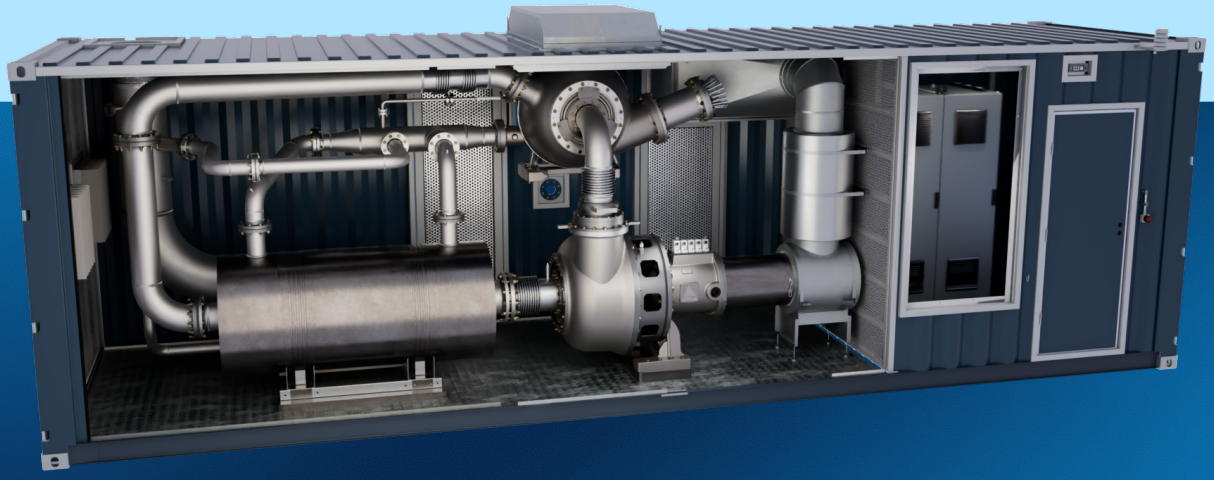
Hydrogen | Bio Gas | Flare Gas | Syngas | Nat Gas

A400

Turbine Package Datasheet

The **A400** provides 400 kWe with an electrical efficiency greater than 40%. The A400 gas turbine utilises a patented twin-spool, intercooled and recuperated (IRG2) gas turbine process. Its combustor is designed to utilise a wide range of fuels, from standard gaseous fuels to biogas, flare gas and even synthetic & recovered gases.



- Modular design
- Active magnetic bearings (AMB)
- Single-can combustion chamber
- Patented IRG2 technology
- High speed power generation
- Highest electrical efficiency in class
- Extensive fuel flexibility
- Worldwide service network
- No lubricants, no friction, no wear
- Ultra low emissions
- Near-zero vibration
- Minimal maintenance & downtime
- Indoor & outdoor installations
- Integrated inlet & cooling air filters

A400

Electrical Performance

Electrical Efficiency	40.2%
Rated Power Output	400 kWe
Output Voltage	400/480 VAC
Output Frequency	50/60 Hz
Max Output Current (cos phi = 1)	577/481 A
Power Factor	Adjustable: 1 - 0.75
Electrical Connection	3 ph + N + PE
Grid Code	On request
Harmonic Distortion	<5%

Exhaust Characteristics

NOx Emissions at 15% O2 (ISO Conditions)	Nat Gas: <15 ppm-v Biogas, Flare & syngas: <30 ppm-v
CO emissions @ 15% O2 (ISO Conditions)	<65 ppm-v
Intercooler power / heat recovery	248 kW
EGT (Full Load)	302°F (150° C)
O2 Content	17.5 %
Exhaust Heat Recovery	160 kW

Dimensions & Clearances

Enclosure Protection	IP 34
Dimensions, installed (W x H x L)	9' 2" x 10' 10" x 40' (2794 x 3297 x 12192mm)
Dimensions, transported (W x H x L)	8' x 9' 6" x 40' (2438 x 2896 x 12192mm)
Weight	48,500 lbs (22,000 kg)

Acoustic Attenuation

Average noise level less than 85 dB(A) at 1.0m horizontal & 1.6m vertical

Emissions for alternate fuels may vary based upon exact composition.

Electrical & exhaust performance data given at standard ISO conditions with an intercooler return temperature of 15° C.

Intercooler and exhaust heat recovery calculated at nominal conditions.

Environmental Limits

Operating Temperature **Storage Temperature**	-4°- +104° F (-20°- +40° C) -4°- +122° F (-20°- +50° C)
Operating Humidity	0 to 95% RH
Storage Humidity	0-95%, Non-corrosive, Non-condensing
Installation Environment	Indoor & Outdoor

Fuels

Due to the modular design, the combustion chamber is easily adjustable to meet the requirements of **natural gas, biogas, flare gas, syngas and hydrogen.**

LHV Range	2150 - 20,600 BTU/LB (5 - 48 MJ/kg)
Fuel Mass Flow	170 - 1,600 LB/HR (21 - 200 g/s)
Fuel Inlet Pressure	87 - 102 PSI (g) 600 - 700 kPa (g)
H2 Content	up to 50%
H2S Capability (with additional equip.)	up to 7%

Directives & Certifications

The A400 is designed and manufactured in compliance with applicable EU directives and a variety of international standards:

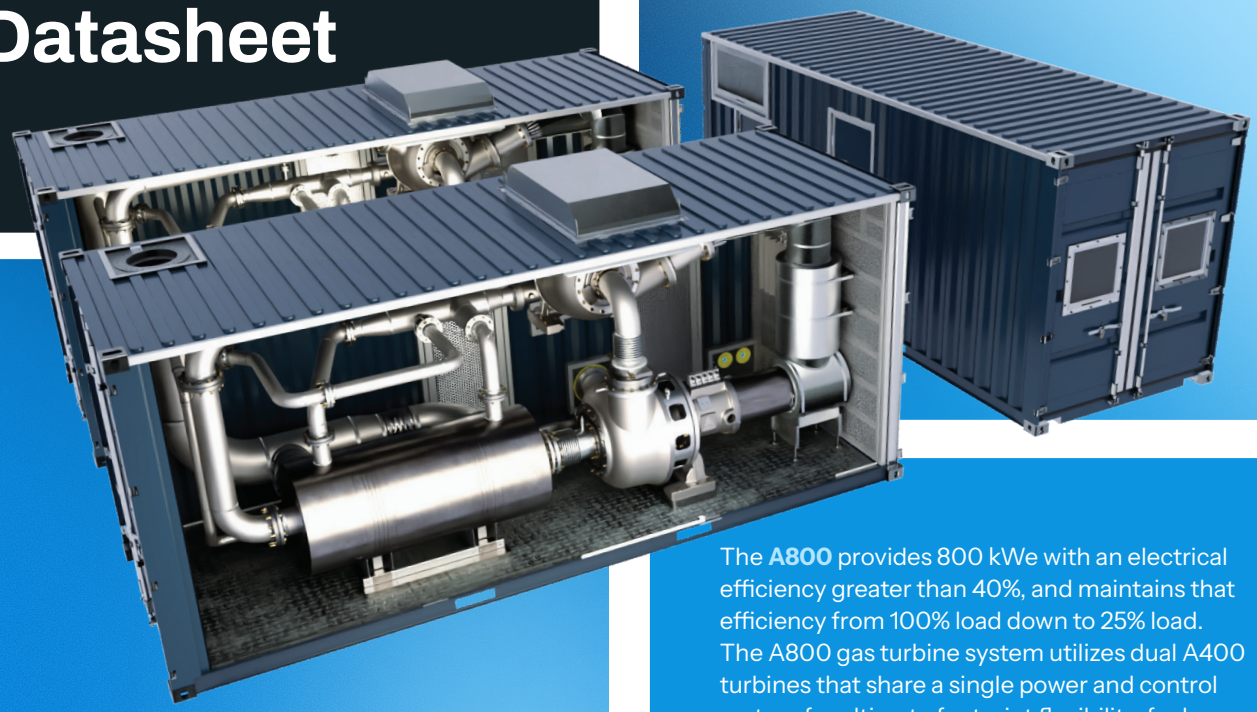
- Machinery Directive (MD) 2006/42/EC
- EMC Directive 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EC
- Pressure Equipment Directive (PED) 2014/68/EU
- ATEX 2014/34/EU
- UL Compliant

For additional details, refer to the package manual.

THE FUTURE OF ENERGY IS ALREADY HERE

Hydrogen | Bio Gas | Flare Gas | Syngas | Nat Gas

A800
Turbine Package Datasheet



The **A800** provides 800 kWe with an electrical efficiency greater than 40%, and maintains that efficiency from 100% load down to 25% load. The A800 gas turbine system utilizes dual A400 turbines that share a single power and control system for ultimate footprint flexibility, fuel flexibility, and industry-leading energy efficiency.

- Modular design
- Active magnetic bearings (AMB)
- Single-can combustion chamber
- Patented IRG2 technology
- High speed power generation
- Highest electrical efficiency in class
- Extensive fuel flexibility
- Worldwide service network
- No lubricants, no friction, no wear
- Ultra low emissions
- Near-zero vibration
- Minimal maintenance & downtime
- Indoor & outdoor installations
- Integrated inlet & cooling air filters

A800

Electrical Performance

Electrical Efficiency	40.2%
Rated Power Output	800 kWe
Output Voltage	480/4160 VAC
Output Frequency	60 Hz
Max Output Current (cos phi = 1)	962 A @ 480V 110 A @ 4160V
Power Factor	Adjustable: 1 - 0.75
Electrical Connection	3 ph + N + PE
Grid Code	On request
Harmonic Distortion	<5%

Exhaust Characteristics

NOx Emissions at 15% O2 (ISO Conditions)	Nat Gas: <15 ppm-v Biogas, Flare & syngas: <30 ppm-v
CO emissions @ 15% O2 (ISO Conditions)	<65 ppm-v
Intercooler power / heat recovery	680 kW @ 95% RH
EGT (Full Load)	150° C
O2 Content	17.5 %
Exhaust Heat Recovery	320 kW

Dimensions & Clearances

Enclosure Protection	IP 34
Dimensions, installed (W x H x L)	40' x 25' (Pad Size) (12.2m x 7.6m)
Dimensions, transported (W x H x L)	(3x) 8' x 25' x 10' 10" (2.43m x 7.6m x 3.3m)
Weight	84,000 lbs (38,000 kg)

Acoustic Attenuation

Average noise level less than 85 dB(A) at 1.0m horizontal & 1.6m vertical

(1) A800 consists of (2) turbine containers and (1) power electronics unit that can be arranged to meet site needs. Dimensions given above pertain to the example layout shown on page 1.

Emissions for alternate fuels may vary based upon exact composition.

Electrical & exhaust performance data given at standard ISO conditions with an intercooler return temperature of 59° F (15° C). Intercooler and exhaust heat recovery calculated at nominal conditions.

Environmental Limits

Operating Temperature	-4° - +104° F (-20°- +40° C)
Storage Temperature	-4° - +122° F (-20°- +50° C)
Operating Humidity	0 to 95% RH
Storage Humidity	0-95%, Non-corrosive, Non-condensing
Installation Environment	Indoor & Outdoor

Fuels

Due to the modular design, the combustion chamber is easily adjustable to meet the requirements of **natural gas, biogas, flare gas, syngas and hydrogen.**

LHV Range	2150 - 20,600 BTU/LB (5 - 48 MJ/kg)
Fuel Mass Flow	340 - 3,200 LB/HR (42 - 400 g/s)
Fuel Inlet Pressure	87 - 102 PSI (g) (600 - 700 kPa (g))
H2 Content	Up to 50%
H2S Capability (with additional equip.)	Up to 7%

Directives & Certifications

The A800 is designed and manufactured in compliance with applicable EU directives and a variety of international standards:

- Machinery Directive (MD) 2006/42/EC
- EMC Directive 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EC
- Pressure Equipment Directive (PED) 2014/68/EU
- ATEX 2014/34/EU
- UL Compliant

For additional details, refer to the package manual.