



Aurelia® A400

The most efficient small gas turbine in the world. The Aurelia® A400 provides 400 kW_e with an electrical efficiency greater than 40 %. The Aurelia® A400 gas turbine utilises patented twin-spool, intercooled and recuperated (IRG2) gas turbine process. The A400 is a modular construction and its combustor is designed to utilise a wide range of fuels, from standard gaseous fuels to biogas, flare gas and even synthetic and recovered gases.



Illustrated image



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Aurelia® A400 features and benefits:

- Modular design
- Active magnetic bearings (AMB)
- Single-can combustion chamber
- Aurelia patented IRG2 technology
- High speed power generation
- Highest electrical efficiency in class
- Fuel flexibility
- Worldwide service network
- No lubricants, no friction, no wear
- Low emissions
- Zero vibration
- Minimal maintenance and down-time
- Indoor & outdoor installations
- Integrated inlet & cooling air filters
- Wide selection of different grid codes available
- Black start & island operation available as an option

The most efficient small gas turbines in the world



Electrical performance & Network

Electrical efficiency	40.2 %
Rated power output	400 kW _e
Output voltage	400/480 VAC
Output frequency	50/60 Hz
Maximum output current at cos phi = 1	577/481 A
Power factor	Settable in range 1 to 0.75 (leading or lagging)
Electrical connection	3 phases, 4 wires
Grid code	On request
Harmonic current distortion	< 5 %

Exhaust characteristic

NO _x emissions at 15 % O ₂ at nominal operating point	With natural gas < 20 ppm-v With biogas, flare gas & syngas < 30 ppm-v
CO emissions at 15 % O ₂ at nominal operating point	< 65 ppm-v
Intercooler power / heat recovery, max	340 kW ¹
Exhaust gas temperature at full power	185 °C
Exhaust gas O ₂ level	17.5 %
Heat recovery from exhaust gas	240 kW ²

Dimensions, weight & clearances

Enclosure protection	IP 34
Dimensions (WxHxL)	3.0 x 3.3 x 9.7 m
Weight	22 000 kg
Clearances /service area	Left/right 3.0 m Front/rear 1.5 m Above 1.5 m

¹ Calculated at maximum operating temperatures.

² Depends on fuel & outlet temperature after heat recovery.

Environmental limits

Operating temperature	-20 to +40 °C, below 0 °C cold weather start procedure
Storage temperature	-20 to +50 °C
Storage & operating atmosphere	0 to 95 % RH, non-condensing, non-corrosive
Installation environment	Indoor/outdoor

Fuels

Due to the modular design the combustion chamber is easily adjustable to meet the requirements of different fuels.

NG, biogas, flare gas & syngas

Range of LHV	5...48 MJ/kg
Fuel mass flow	21...200 g/s
Fuel inlet pressure	600...700 kPa(g)
Hydrogen volume content, initial max	30 %

Acoustic emissions

Average noise level is less than 85 dB(A) at 1.0 meter distance and 1.6 meter height.

Directives and Certifications

The A400 is designed and manufactured in compliance with applicable EU directives and a variety of national and 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

For details see manuals.