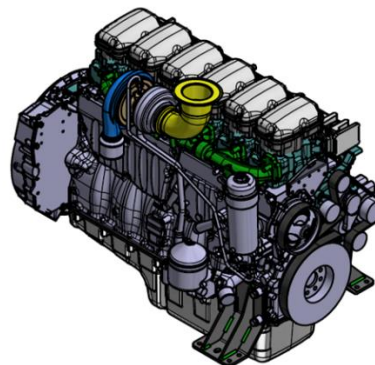


# Technical Data

## QES300NG G

Spark Ignition Gas Engine  
Generating set



### Basic technical data

|   |                                |
|---|--------------------------------|
| Engine Manufacture                      | Quantum                        |
| Engine Model                            | Q6.13TASI                      |
| Number of cylinders                     | 6                              |
| Cycle                                   | Four stroke                    |
| Induction system                        | Turbocharged and charge cooled |
| Compression ratio                       | 12.5:1                         |
| Bore                                    | 130 mm                         |
| Stroke                                  | 160 mm                         |
| Cubic capacity                          | 12.7 liters                    |
| Direction of rotation (view from front) | Clockwise                      |
| Firing order                            | 1,5,3,6,2,4                    |
| Alternator Manufacture                  | Mecc Alte                      |
| Phase                                   | 3 Phase                        |
| Voltage                                 | 400-415V                       |
| Assumed Power factor                    | 1                              |

### Dimensions and Connections

|                                       |                           |
|---------------------------------------|---------------------------|
| Hot water Flow                        | NA                        |
| Hot Water Return                      | NA                        |
| Intercooler connections               | NA                        |
| Gas Connection (natural gas (Biogas)) | DN50 Flange<br>DN50 Lange |
| Exhaust Connection                    | 6"                        |

Drain and condensation connections 1" BSP

Condensation should have a trap included to prevent exhaust gases escaping, done by customer

### Overall dimensions (close fit canopy)

|        |                  |
|--------|------------------|
| Height | 2600 mm          |
| Length | 5200 mm          |
| Width  | 2000 mm          |
| Weight | 4,400kg(approx.) |

If the engine is to operate in ambient conditions other than those of the test conditions, suitable adjustments must be made for the changes. For full details, contact QES or KVT

| General installation                  |             | Units    |
|---------------------------------------|-------------|----------|
| Fuel Type                             | Natural gas |          |
| Mechanical output                     | 266         | kW       |
| Electrical output Max (Stand-by)      | 250         | kWe      |
|                                       | 312         | kVA      |
| Natural gas flow                      | 2193        | Mj/h     |
| Exhaust gas outlet temperature        | 541         | °C       |
| Jacket water exit temperature (max)   | 90          | °C       |
| Charge cooler entry temperature (max) | 35          | °C       |
| Electrical efficiency                 | 39          | %        |
| Voltage                               | 400-415     | V        |
| Power factor                          | 1           | pf       |
| Actual alternator efficiency          | 93          | % @ pf 1 |
| Emissions                             | CO mg/Nm3   | NA       |
|                                       | NOX mg/Nm3  | NA       |

Caution: The airflows shown in this table will provide acceptable cooling for an open power unit operating in ambient temperatures of up to 53 °C (127 °F) or 46 °C (114.8 °F) if a canopy is fitted. If the power unit is to be enclosed totally, a cooling test should be done to check that the engine cooling is acceptable. If there is insufficient cooling, contact us.

### Construction

- Rigid base frame made of profiled steel including engine bund.
- Direct coupled engine and generator assembly with flexible drive plate.
- Engine generator assembly flexibly mounted on the base frame.
- Heat dump/radiator mounted on generator frame. On the larger sets radiator may be disconnected and shipped loose to fit inside ISO shipping container for export.

### Exhaust System

Primary exhaust silencer is mild steel and is rated at industrial sound level (85DBA @1 meter).

### Gas train

Includes; Manual shut off valve, Filter, Double block solenoid, 30-50mbar pressure regulator.

High pressure train available on request.

### Canopy

- Highly effective sound enclosure of sheet steel construction, powder coated, Handles and locks on each side. Insulation thickness 32mm, Constructed from 2 mm steel plate. Air passages acoustically lined and waterproof.

### Heat recovery system (Optional)

- Comprising a variable speed water pump, pressure expansion vessel, pressure relief valve and drain valves.
- Heat recovery from the engine and exhaust heat exchanger to a stainless steel plate heat exchanger.
- Temperature control achieved by varying the water pump speed and a 3 port divert valve to an external heat dump circuit.
- The secondary circuit monitors flow and return temperatures and operates a 3 port mixing valve to maintain flow temperature to a setpoint. Excess heat not recovered is diverted to the heat dump radiator in the primary circuit.

### Control Panel

Sheet metal enclosure (1200x600x400mm). Deepsea electronics PLC based system enables auto and manual control for start/stop, voltage control, mains synchronization, load control. Remote control Data access through Ethernet (customer connection required). Control and load cables not supplied, and connection will be required between panel and engine sub panel once installed.

### Engine control

Start/stop, engine speed control, monitoring for engine coolant inlet and outlet temperatures and exhaust temperature. Circulating pump operating status and variable speed control to maintain cylinder head temperature.

### Alternator control

Control of the alternator mounted AVR for voltage output, power output and Power Factor.

### Emergency stop

Canopy mounted push button with external link.  
If external EST operated engine will stop./  
If Canopy ESB operated only the engine will stop

### Critical points

- T1 Engine coolant outlet temperature
- T2 Engine coolant inlet temperature
- T3 Exhaust temperature
- T4 Secondary water feed temperature
- V1 Primary circuit divert valve position 0 -100%
- V2 Secondary circuit mixing valve position 0-100%

### Emissions reduction (Optional)

Standard 3 way catalyst can be add at time of order to reduce the NOX and CO2 for site requirement or regulation (naturally aspirated) For turbocharged or lean-burn engines SCR low NOX systems can be added.

