

## Wärtsilä 50SG



The Wärtsilä 50SG is a four-stroke, spark-ignited gas engine generating set that works according to the lean-burn process. It is available in an 18V cylinder configuration, with a power output ranging between 18.4 and 18.9 MW at 500 and 514 rpm for 50 or 60 Hz applications.

- Fast-starting capability which enables rapid response to fluctuations inherent to renewable generation
- High power plant net electrical efficiency rating
- Low levels of emissions
- Optimised performance and efficiency throughout the lifecycle with Wärtsilä's lifecycle solutions
  - Technical support and expertise services
  - Parts maintenance and repair services



## Main technical data

Engine generating set, 50 & 60 Hz	
Cylinder configurations	18V
Cylinder bore	500 mm
Piston stroke	580 mm
Engine speed	500 rpm (50 Hz), 514 rpm (60 Hz)
Mean piston speed	9.7 m/s (50 Hz), 10 m/s (60 Hz)

### Rated electrical power (kW)

Genset type	50 Hz	60 Hz
18V50SG	18 434	18 875

### Electrical efficiency / heat rate 50 Hz

5% tolerance, ISO conditions

Genset type	Gas
18V50SG	50.3% / 7161 kJ/kWh

0% tolerance, ISO conditions

Genset type	Gas
18V50SG	47.8% / 7524 kJ/kWh

### Electrical efficiency / heat rate 60 Hz

5% tolerance, ISO conditions

Genset type	Gas
18V50SG	50.0% / 7207 kJ/kWh

0% tolerance, ISO conditions

Genset type	Gas
18V50SG	47.5% / 7573 kJ/kWh

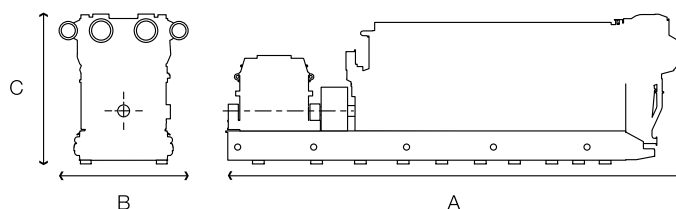
### Dimensions (mm) and weights (tonnes)<sup>1</sup>

Genset type <sup>2</sup>	Length (A)	Width (B)	Height (C)	Dry weight <sup>3</sup> +/- 5%
18V50SG	18 747	5 543	6 257	377

<sup>1</sup> There are a number of dismantling options available for transportation of the generating set. These include different options for reducing the weight, height and length. Please contact Wärtsilä for further information.

<sup>2</sup> The listed dimensions of generating set are maximum transportation dimensions, but excludes the spring-mounted shock absorbers and turbocharger inlet cones for V engines.

<sup>3</sup> The generating set's dry weight includes spring-mounted shock absorbers and inlet cones, excludes lube oil and cooling fluids.



**General conditions** The rated electrical power, heat rates and electrical efficiencies are given at generator terminals at 100 kPa ambient pressure, 25°C suction air temperature and 30% relative humidity, and without engine driven pumps. Power factor 1.0 (site). Gas LHV >28 MJ/Nm<sup>3</sup>. Gas methane number >80. Gas pressure > 5.1 bar(g) at plant inlet. Please contact Wärtsilä for project-specific performance figures in case the gas does not fulfil the aforementioned criteria

**Special conditions** Site conditions and applicable emission limits may have an impact on the heat rate and efficiency. Please contact Wärtsilä for project-specific performance data.

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