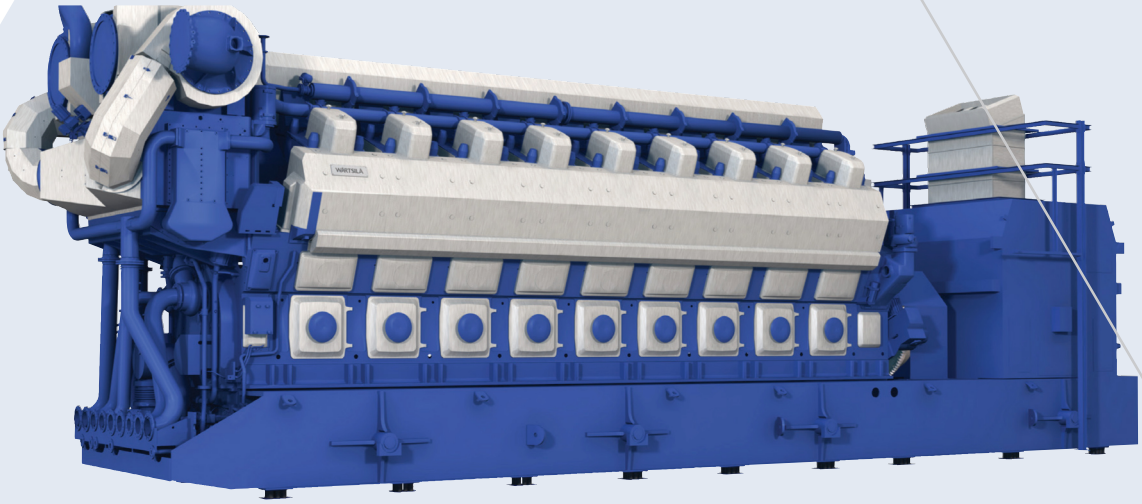


WÄRTSILÄ 50SG
GAS ENGINE GENERATING SET

The Wärtsilä 50SG is a four-stroke, spark-ignited gas engine generating set. High efficiency in a small footprint combined with great reliability and flexibility makes this solution ideal for flexible baseload and balancing applications. It offers unique fast-starting capability, which enables rapid response to fluctuations inherent to renewable generation. Wärtsilä 50SG also supports you towards decarbonisation with its low greenhouse gas emissions and capability of hydrogen blending.

We help our customers in decarbonisation by developing market-leading technologies such as flexible power plants that can be delivered as engineering, procurement and construction (EPC). With our full lifecycle support we ensure guaranteed performance of the plant.

Key benefits

- High power density for balancing and peaking applications
- No start cost, limitations nor degradation in number of starts
- Fast-starting capability which enables rapid response to fluctuations typical to renewable generation
- Minimal water consumption
- Runs on natural gas, biogas, synthetic methanol and is capable of hydrogen blending
- Low greenhouse gas emissions
- Optimised performance and reliability supported by Wärtsilä Lifecycle solutions

2
Minutes to full load

50,2
% Electrical efficiency

More than
4 000
MW Installed capacity

Main technical data

Engine generating set	
Cylinder configurations	18V
Cylinder bore	500 mm
Piston stroke	580 mm
Engine speed	500 rpm (50 Hz), 514 rpm (60 Hz)

Performance [1]	
	18V50SG
Rated electrical power (kW)	18 434 (50 Hz) 18 875 (60 Hz)
Electrical efficiency (%)	50.2 (50 Hz) 50.0 (60 Hz)
Heat rate at generator terminals (kJ/kWh)	7 165 (50 Hz) 7 207 (60 Hz)

Loading and unloading		
	Connected to grid	**Full load**
Regular start time (min:sec)	00:30	< 5
Fast start time (min:sec)	00:30	< 2
Stop time (min)	1	
Ramp rate (hot, load /min)	> 100%	

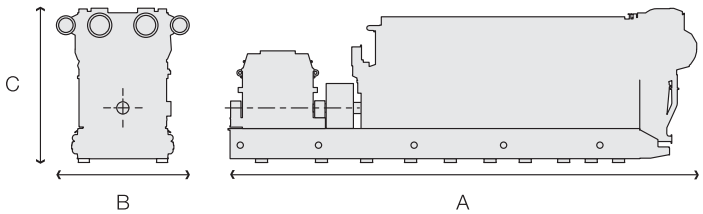
Minimum load	
Unit level	10%
Plant level	1%

Maximum transportation dimensions (mm) and weights (tonnes) [2]

Genset type	Length (A)	Width (B)	Height (C)	Dry weight
Wärtsilä 50SG	18 747	5 543	6 257	377

1 Rated electrical power and electrical efficiencies are given at generator terminals at 100kPa ambient pressure, 25°C suction air temperature and 30% relative humidity, and without engine driven pumps. Power factor 1.0 (site). NO_x emission level 90ppm @15% O2 dry. Electrical efficiency with 5% tolerance. Gas LHV >28MJ/Nm3. Gas methane number >80. Site conditions, fuel and applicable emission limits may have an impact on performance figures. Please contact Wärtsilä for project-specific performance data.

2 There are a number of dismantling options available for transportation of the generator set. These include different options for reduced weight and height. Please contact Wärtsilä for further information.



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