

WÄRTSILÄ 34SG

GAS ENGINE GENERATING SET

The Wärtsilä 34SG is a four-stroke, spark-ignited, lean-burn gas engine generating set. Its agility and flexibility make the Wärtsilä 34SG generating set an excellent choice for both flexible baseload and balancing renewables applications. It also offers a unique fast-starting capability, which enables rapid response to fluctuations inherent to renewable generation.

Wärtsilä 34SG helps to provide an efficient, reliable and cost-efficient source of energy for power producers. It also provides enough spinning reserve for balancing whenever needed.

The Wärtsilä 34SG engine generating set is extremely reliable as it is based on the well-proven Wärtsilä 32 engine, that has a track record from the mid-1990s. The Wärtsilä 34SG features a wide power output range from 5.6 to 9.8 MW, as it is available in 12V, 16V and 20V cylinder configurations.

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

- Runs on natural gas, biogas, synthetic methanol and is capable of hydrogen blending
- No start cost, limitations nor degradation in number of starts
- Compact sizing enables transportation to demanding locations
- Capable of operating in high altitude
- Minimal water consumption
- Longer maintenance intervals
- Optimised performance and efficiency supported by Wärtsilä Lifecycle solutions

2

Minutes to full load

48,9

% Electrical efficiency

1000

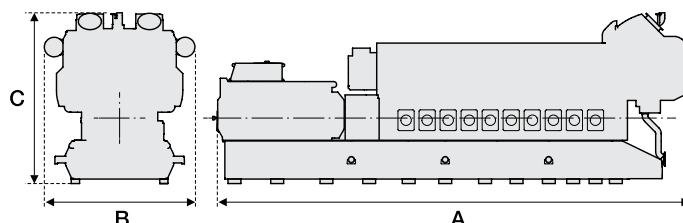
Generating sets delivered

Engine generating set			
Cylinder configurations	12, 16, 20V		
Cylinder bore	340 mm		
Piston stroke	400 mm		
Engine speed	750 rpm (50 Hz), 720 rpm (60 Hz)		
Performance ¹			
	20V34SG	16V34SG	12V34SG
Rated electrical power (kW)	9 795 (50 Hz) 9 388 (60 Hz)	7 830 (50 Hz) 7 491 (60 Hz)	5 840 (50 HZ) 5 580 (60 Hz)
Electrical efficiency (%)	48.9 (50 Hz) 48.8 (60 Hz)	48.9 (50 Hz) 48.7 (60 Hz)	48.0 (50 Hz) 47.8 (60 Hz)
Heat rate kJ/kWh	7 363 (50 Hz) 7374 (60 Hz)	7 367 (50 Hz) 7 396 (60 Hz)	7 501 (50 Hz) / 7 538 (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
12V34SG	10 454	3 350	4 511	102
16V34SG	11 456	3 350	4 511	125
20V34SG	13 142	3 350	4 573	136

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). NOx 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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