

## 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 to decarbonise their energy systems by developing market-leading technologies such as flexible power plants, that can be delivered as engineered equipment (EEQ), or engineering, procurement and construction (EPC). With our full lifecycle support we can 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

>1 000

generating sets  
delivered

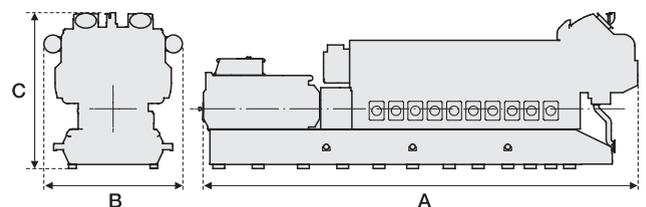
# Main technical data

Engine generating set						
Cylinder configurations	12V, 16V, 20V					
Cylinder bore	340 mm					
Piston stroke	400 mm					
Engine speed	750 rpm (50 Hz), 720 rpm (60 Hz)					
Performance <sup>1</sup>						
	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)	7 374 (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			< 5:00		
Fast start time (min:sec)	00:30			< 2:00		
Shut-down time (min)	1					
Ramp rate (hot, load /min)	> 100%					
Minimum load						
Unit level	10%					
Plant level	Equal to minimum load of one unit					

Maximum transportation dimensions (mm) and weight (tonnes) <sup>2</sup>				
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

<sup>1</sup> 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 and heat rate 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.

<sup>2</sup> 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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