



WÄRTSILÄ 50DF MULTI-FUEL ENGINE GENERATING SET

The Wärtsilä 50DF is a four-stroke multi-fuel engine generating set. It allows instant switching to alternative fuels, should price instability or delivery challenges affect the use of the primary fuel. It operates on the lean burn principle, which reduces peak temperatures and lowers NOx emissions considerably. High efficiency in a small footprint combined with great reliability and flexibility makes this solution ideal for various applications.

Wärtsilä helps customers unlock the value of the energy transition by optimising their energy systems and future-proofing their assets. We offer flexible power plants, energy management systems, and storage, as well as engineering, procurement and construction (EPC) deliveries and full lifecycle support that ensure guaranteed performance.

Key benefits

- Ensures energy security in operation through fuel flexibility and seamless switching between fuels
- Can operate on natural gas or any liquid fuel, including HFO
- Low emissions in gas mode meets even the most stringent emission limits
- Robust, reliable genset, proven in the most challenging environments
- Fast-starting capability which enables rapid response to fluctuations
- Optimised performance and efficiency supported by Wärtsilä Lifecycle solutions

30

sec

Connection to grid

49,4

% Electrical efficiency

5000

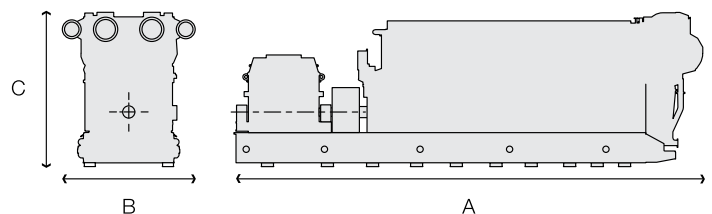
kW Installed capacity

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		
	20V34SG-LPG	
Rated electrical power (kW)	17 635 (50 Hz) 18 190 (60 Hz)	
Electrical efficiency (%)	GAS 49.4 (50 Hz) 49.3 (60 Hz)	LFO 48.2 (50Hz) 47.7 (60 Hz)
Heat rate at generator terminals (kJ/kWh)	GAS 7 285 (50Hz) 7 305 (60Hz)	LFO 7 474 (50 Hz) 7 545 (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
18V50DF	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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