

WÄRTSILÄ 34DF

MULTI-FUEL ENGINE GENERATING SET

The Wärtsilä 34DF 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 NO_x emissions considerably.

The Wärtsilä 34DF 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 34DF 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.

Main 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 and meets even the most stringent emission limits with exhaust gas after treatment
- Optimised performance and efficiency supported by Wärtsilä Lifecycle solutions

2

Minutes to full load

48.6

% Electrical efficiency

More than

1 000

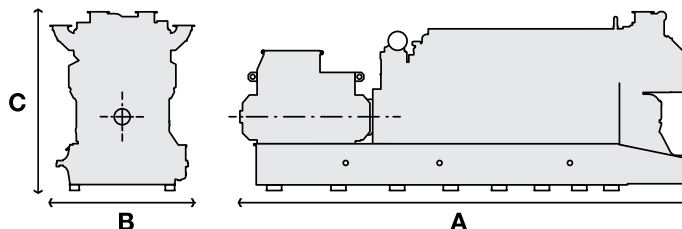
generating sets delivered

Engine generating set			
Cylinder configurations	12 V, 16 V, 20 V		
Cylinder bore	340 mm		
Piston stroke	400 mm		
Engine speed	750 rpm (50 Hz), 720 rpm (60 Hz)		
Performance ¹			
	20V34DF (50Hz / 60Hz)	16V34DF (50Hz / 60Hz)	12V34DF (50Hz / 60Hz)
Rated electrical power (kW)	9795 / 9388	7830 / 7491	5840 / 5580
Electrical efficiency (%)	GAS: 48.6 / 48.5 LFO: 45.6 / 45.8 HFO: 45.8 / 46	GAS: 48.6 / 48.4 LFO: 45.6 / 45.6 HFO: 45.8 / 45.8	GAS: 48.4 / 48.1 LFO: 45.3 / 45.4 HFO: 45.6 / 45.6
Heat rate at generator terminals (kJ/kWh)	GAS: 7404 / 7415 LFO: 7898 / 7868 HFO: 7856 / 7828	GAS: 7408 / 7438 LFO: 7903 / 7893 HFO: 7861 / 7852	GAS: 7445 / 7482 LFO: 7941 / 7938 HFO: 7899 / 7897
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)	Length (B)	Height (C)	Dry weight
12V34DF	10 454	3 350	4 374	99
16V34DF	11 606	3 420	4 374	130
20V34DF	12 971	3 418	4 429	141

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 different dismantling options available to reduce weight and height for transporting. Please contact Wärtsilä for further information.



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