VMAN ENGINE

2026

HMM13F METHANOL ENGINE TECHNICAL DATA SHEET

HMM13F Methanol Engine



HMM13F is a robust methanol-fueled engine designed for demanding power generation. This turbocharged, inter-cooled 6-cylinder unit delivers prime, standby, and continuous power up to 352kW, 320kW, and 256kW respectively at 1500rpm. It features advanced electronic injection for M100 methanol and a sophisticated four-valve design. The engine is engineered for efficiency, with a fuel consumption of 145 kg/h at its rated 320kW standby load, making it an ideal choice for reliable prime or backup power applications.

Ratings Of Engine	1500rpm	1800rpm
	HMM13FA	HMM13FB
Engine Power	310kW	310kW
Electrical Power (COP)	280kWe	280kWe

GENERAL ENGINE DATA

Engine Model	HMM13F
Engine Type	Line-type 6-Cylinder, Water-cooling, Turbocharged , Inter-cooled
Speed	1500 rpm
Bore x stroke	130 × 161 mm
Displacement	12.82 L
Compression ratio	12.5 : 1
Rotation {Looking at flywheel}	Counter clockwise {CCW}
Firing order	1-5-3-6-2-4
Dry weight {W/O cooling system}	1173 kg
Dimension {L x W x H}	1814 x 1100 x 1549 mm
Flywheel housing	SAE 1#
Flywheel	SAE 14#
Fuel system	Manifold injection
Fuel type	Methanol
Injector Advance Angle	Electronic
Combustion Strategy	Stoichiometric Combustion

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INTAKE SYSTEM	
Charge temperature @rated output	50°C
Intake depression	3.6kPa
Intercooled pressure loss @rated output	11kPa to 13kPa
Inlet flow @rated output	1450kg/h
Maximum intake resistance with clean filter element	3.5kPa
Maximum intake resistance with dirty filter element	6.5kPa

EXHAUST SYSTEM	
Exhaust back pressure loss @rated output	12kPa
Exhaust flow @rated output	1580kg/h
Maximum exhaust temperature (Before turbo)	750°C
Maximum exhaust temperature (After turbo)	650°C

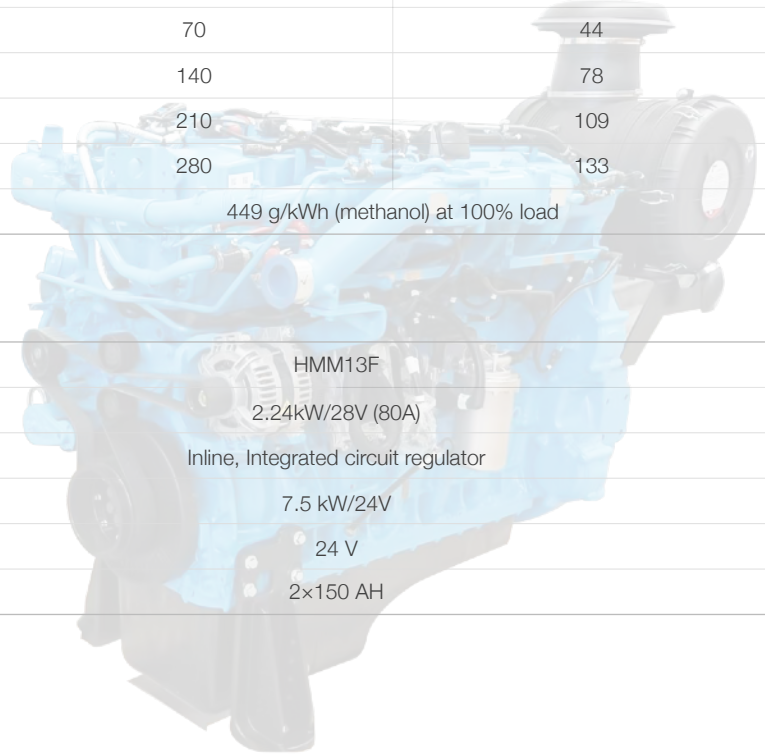
COOLING SYSTEM		
Engine Model	HMM13FA	HMM13FB
Maximum coolant temperature	104°C	
Thermostat(Modulating) range	85 to 95°C	
Heat loss from the cooling system	199kW	
Coolant flow rate	425L/min	525L/min
Intercooler dissipates heat	47kW	
Allowable intake air temperature of intercooler	194°C	
Maximum air intake of intercooler	1450kg/h	

LUBRICATION SYSTEM	
Maximum oil temperature	120°C
Oil pressure @ idle speed	130kPa
Oil pressure @ rated speed	500kPa
Oil pan allows dip Angle	5°
Oil capacity	41L

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FUEL SYSTEM

Methanol pump injection pressure	550kPa	
Methanol Maximum supply fuel pressure	13.5kPa	
Governor	Electric type	
Fuel pump	Electrical	
Fuel filter	Methanol filter	
Methanol consumption of generator set	Loading (kWe)	Methanol consumption (kg/h)
25% load	70	44
50% load	140	78
75% load	210	109
100% load	280	133
Fuel consumption of HMM13F methanol engine	449 g/kWh (methanol) at 100% load	



ELECTRICAL SYSTEM

Engine Model	HMM13F
Generator	2.24kW/28V (80A)
Voltage regulator	Inline, Integrated circuit regulator
Starting motor	7.5 kW/24V
Battery voltage	24 V
Battery capacity	2×150 AH

VALVE SYSTEM

Type	Overhead valve type
Number of valve	Intake 2, exhaust 2 per cylinder
Valve lashes at cold	Intake 0.4 mm, Exhaust 0.65 mm

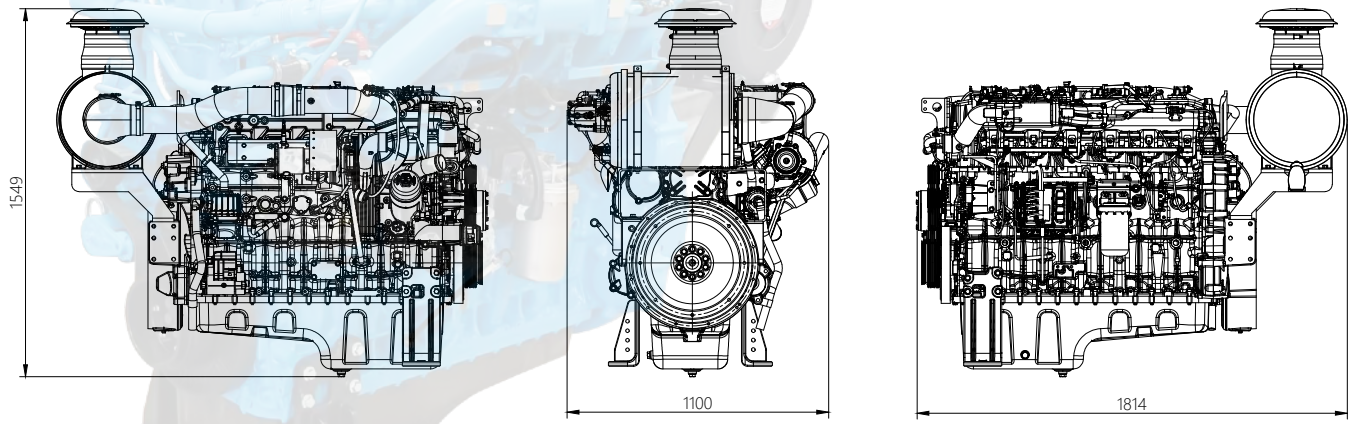
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TECHNOLOGY BULLETIN OF HMM13F METHANOL ENGINE EMISSION DATA

After-Treatment Device: Three-Way Catalytic								
Weighting Factor	0.05	0.25	0.3	0.3	0.1	Σ(weighted val.)	Emission (val.)	StageV (val.)
Power_kW	260.00	195.00	130.00	78.00	26.00	126.75	g/kWh ↓	g/kWh
CO_g/h	54.667	42.746	30.89	26.61	9.68	31.638	0.250 ↓	3.5
THC_g/h	16.954	13.543	8.49	4.315	1.759	8.251	0.065 ↓	0.19
Nox_g/h	476	97	1.1	0.7	0.15	48.605	0.383 ↓	0.4

Demonstrating exceptional environmental performance, the engine's emissions are **4–93% below EU Stage V limits**, ensuring full compliance with a substantial future-ready margin.

HMM13F SERIES METHANOL ENGINE DRAWING



** All ratings are based on operating conditions specified in ISO 8528-1:2018. Performance tolerance: ±4%.*
** Reference test conditions: 100 kPa atmospheric pressure, 25°C air inlet temperature, 30% relative humidity, as defined in ISO 3046-1. Derating may be required under non-standard ambient conditions; please consult the manufacturer for site-specific performance adjustments*
**. Engine output power represent net engine power per ISO 3046-1, including essential auxiliaries (fuel injection pump, water pump, and lubricating oil pump). Excluded: battery charging alternator, cooling fan, and optional equipment;*
**. Exhaust emissions comply with EU Stage V requirements under Regulation (EU) 2016/1628 (or specify other applicable standard, e.g., U.S. EPA Tier 4 Final)*

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