

HYUNDAI 

HIIMSEN

Hi-Touch and Hi-Tech Medium Speed Engine

H46/60V

MARINE & STATIONARY



Earth Friendly Engine

H46/60V HiMSEN Family.....

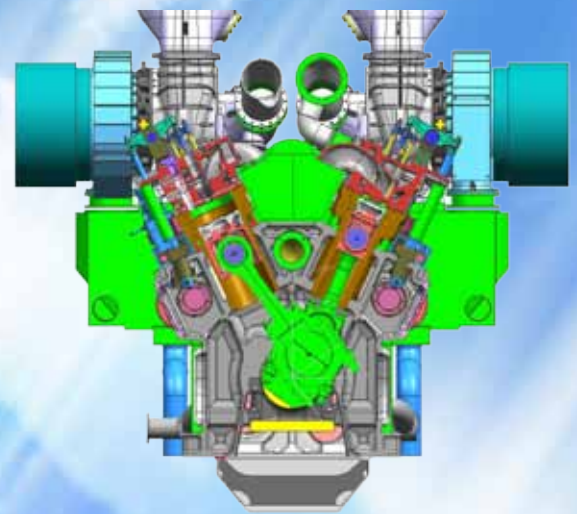
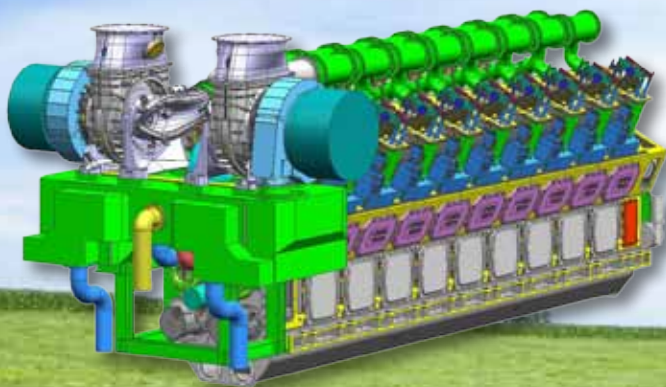
The new H46/60V medium speed engine will have a unique design to meet not only new emissions regulations but also client requests for easier maintenance concept. To realize high reliability and performance, state-of-the-art technology has been adapted together with a huge amount of analysis work and field experience.

Application of Dual Valve Timing makes it possible to optimize combustion behavior at full load and to minimize NOx emissions during part load operation. It can be used for typical marine propulsion, electric propulsion and land based power generation. The Vee configuration of H46V will be available engines of 12 to 20 cylinders and power of up to 26MW.

- Structural strength minimizing thermal load, noise and vibration
- Highly efficient turbocharging
- Advanced Miller timing
- Optimized combustion chamber with crown shape and nozzle specification.
- Efficient lubricating and cooling system

■ Technical Data

Specification	Unit	H46/60V		
Bore / Stroke	mm	460/600		
Swept Volume	liter/cyl.	99.7		
Bank Angle	°	50		
Engine Speed	rpm	500	514	600
Frequency	Hz	50	60	50/60
Output	kW/cyl.	1,200	1,200	1,300
Piston Speed	m/s	10.0	10.3	12.0
Mean Effective Pressure (BMEP)	bar	26.1	26.1	28.1
Power density	b.m/s	289.4	289.4	313.2
Max. Firing Pressure (P.max)	bar	250		



Main Features

Performance characteristics

- High Output in the similar range engines
- Low Fuel Oil Consumption
- Quick acceleration & load response

Maintenance

- Easier maintenance by modularized design
- Minimal the number and kind of components

Earth-friendly engine

- Low NOx emissions
- Complies with IMO Tier II
- Low Vibration & Noise

Major Application

Marine

- Propulsion System
- Generating Sets

Stationary

- Diesel Power Plant
- Pre-fabricated Power Plant
- Emergency Generating Sets for Nuclear Power Plant

■ Main Data

Engine Type	600 rpm/60 Hz		600 rpm/50 Hz	
	Engine	Generator	Engine	Generator
12H46/60V	15,600	15,210	15,600	15,210
14H46/60V	18,200	17,745	18,200	17,745
16H46/60V	20,800	20,280	20,800	20,280
18H46/60V	23,400	22,815	23,400	22,815
20H46/60V	26,000	25,350	26,000	25,350
Engine Type	514 rpm/60 Hz		500 rpm/50 Hz	
	Engine	Generator	Engine	Generator
12H46/60V	14,400	14,040	14,400	14,040
14H46/60V	16,800	16,380	16,800	16,380
16H46/60V	19,200	18,720	19,200	18,720
18H46/60V	21,600	21,060	21,600	21,060
20H46/60V	24,000	23,400	24,000	23,400

Remarks

- 1) The alternator outputs are calculated for an efficiency of 97.5% and a power factor of 0.8 lagging.
- 2) Power adjusting between -5% derating is generally accepted, other power adjusting must be consulted to engine builder.
- 3) In case of diesel oil(Distillate Fuels ISO8217 DM Grade) operation continuously.

■ Specific Fuel Oil Consumption

Load	500/514/600 rpm
100%	176 g/kWh

Remarks

- 1) Reference condition based on ISO 3046/1 (air press. 1 bar, air temp. 25°C, cooling water temp. 25°C)
- 2) Fuel oil based on MDO, LCV 42,700 kJ/kg
- 3) Warranted at 100% load only
- 4) Without engine driven pump and with +5% tolerance

■ Specific Lubricating Oil Consumption:

0.7 g/kWh

(Tolerance: +25% depending on the operating conditions)

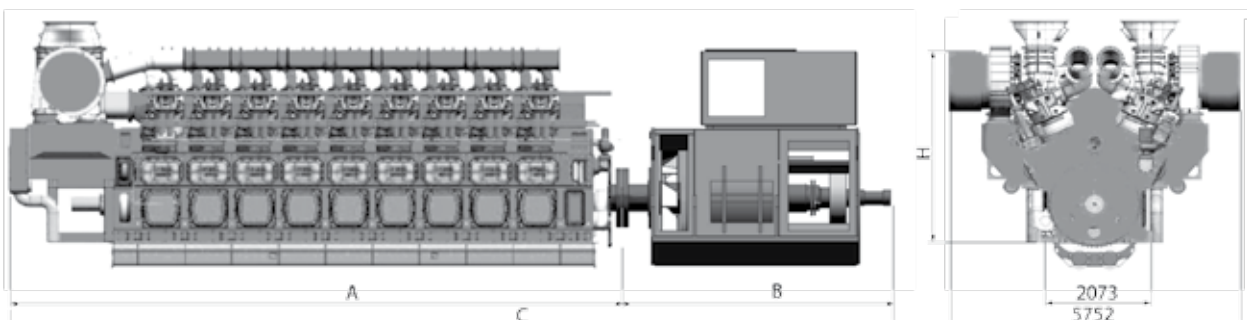
■ Dimensions & Weights

600 rpm/60 Hz						
Cyl.	Dimension (mm)				Dry Weight (ton) ₂₎	
	A	B ₁₎	C ₁₎	H	Engine ₃₎	Gen-Set ₄₎
12	10,410	4,124	14,534	4,740	205.3	256.4
14	11,410	4,177	15,587	4,740	216.5	270.3
16	12,410	4,374	16,784	4,740	227.8	286.6
18	13,410	4,275	17,685	4,740	239.0	313.0
20	14,410	4,275	18,685	4,740	250.2	329.4
600 rpm/50 Hz						
Cyl.	Dimension (mm)				Dry Weight (ton) ₂₎	
	A	B ₁₎	C ₁₎	H	Engine ₃₎	Gen-Set ₄₎
12	10,410	4,124	14,534	4,740	205.3	256.2
14	11,410	4,177	15,587	4,740	216.5	304.3
16	12,410	4,374	16,784	4,740	227.8	289.3
18	13,410	4,275	17,685	4,740	239.0	313.0
20	14,410	4,275	18,685	4,740	250.2	327.0

514 rpm/60 Hz						
Cyl.	Dimension (mm)				Dry Weight (ton) ₂₎	
	A	B ₁₎	C ₁₎	H	Engine ₃₎	Gen-Set ₄₎
12	10,410	4,287	14,697	4,740	205.3	260.9
14	11,410	4,537	15,947	4,740	216.5	280.3
16	12,410	4,266	16,676	4,740	227.8	299.0
18	13,410	4,416	17,826	4,740	239.0	316.5
20	14,410	4,566	18,976	4,740	250.2	333.2
500 rpm/50 Hz						
Cyl.	Dimension (mm)				Dry Weight (ton) ₂₎	
	A	B ₁₎	C ₁₎	H	Engine ₃₎	Gen-Set ₄₎
12	10,410	4,108	14,518	4,740	205.3	267.2
14	11,410	4,308	15,718	4,740	216.5	285.1
16	12,410	4,266	16,676	4,740	227.8	299.2
18	13,410	4,416	17,826	4,740	239.0	316.5
20	14,410	4,566	18,976	4,740	250.2	330.8

Remarks

- 1) : Depending on alternator.
 - 2) : Weight included a standard alternator (Maker : HHI-EES)
 - 3) : Without Common bed
 - 4) : Confirmation from HHI to be needed when applying
- Note) All dimensions and weight are approximate value





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