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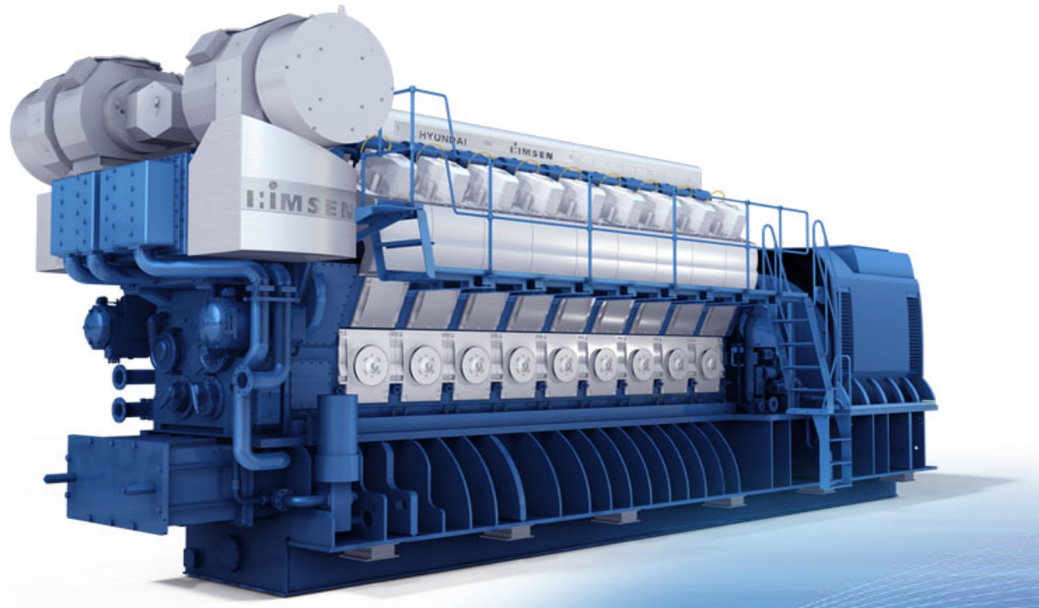
HiMSEN Dual Fuel Engine

Hi-touch Marine & Stationary ENgine

H35DF(V)



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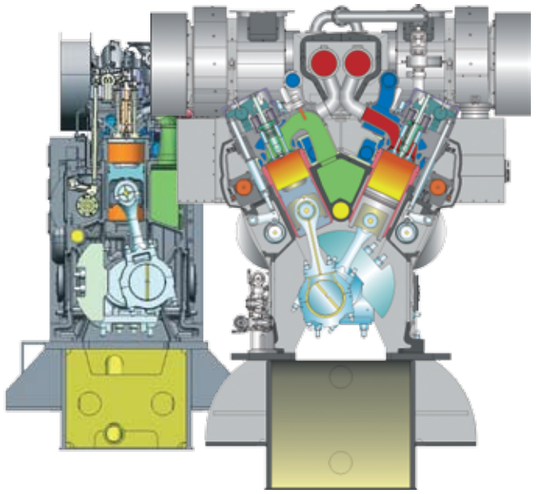
H35DF
HiMSEN Family...



Design Philosophy

H35DF of HiMSEN Family has simple and smart design which is suitable for marine & stationary power generation application with gas diesel fuel with high reliability and performance. The key features are:

Economical and Ecological Engine with higher efficiency and lower emission, etc., which is based on the following specific designs;

- Optimized turbocharging with enhanced Miller Cycle.
- Lowest NOx emission satisfied with Tier Ⅱ (Diesel mode) and Tier Ⅲ (Gas mode) without after-treatment device.

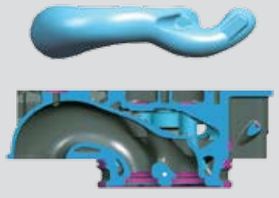
Reliable and Practical Engine

- Number of engine components is minimized for customer preference.
- Most of the components are directly accessible for easier maintenance.

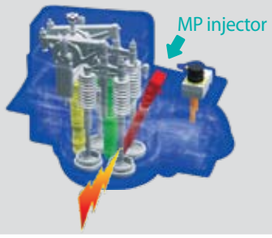
No. of Cylinder In-line type	6, 7, 8, 9
No. of Cylinder V-type	12, 14, 16, 18, 20
Rated Speed	720 / 750 rpm
Power per Cylinder	480 kW
Cylinder Bore	350 mm
Piston Stroke	400 mm
Mean Piston Speed	9.6 / 10.0 m/s
Mean Effective Pressure	20.8 / 20.0 bar
Compression Ratio	12.5 : 1

Major Advantages : Smart Electronic Engine Control System with Excellent Reliability

Cylinder Head
- Optimized port design
- High mixture flow



MicroPilot System
- High pressure injection
- Controllable fuel quantity



AFR Control
- Quick response for operation
- Efficiency, NOx control

■ Rated Power of Gen-Set at 100% Load

Engine Type	Rated Output (kW)			
	720 rpm / 60 Hz		750 rpm / 50 Hz	
	Engine	Generator	Engine	Generator
6H35DF	2,880	2,764	2,880	2,764
7H35DF	3,360	3,225	3,360	3,225
8H35DF	3,840	3,705	3,840	3,705
9H35DF	4,320	4,168	4,320	4,168
12H35DFV	5,760	5,558	5,760	5,558
14H35DFV	6,720	6,518	6,720	6,518
16H35DFV	7,680	7,449	7,680	7,449
18H35DFV	8,640	8,380	8,640	8,380
20H35DFV	9,600	9,312	9,600	9,312

Remarks
- Based on alternator efficfiency of 96 - 97%.

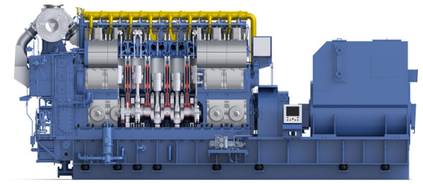
■ Heat Rate & SFOC

	720 rpm / 60 Hz	750 rpm / 50 Hz
Heat rate @ Gas mode	7,270 kJ/kWh	7,270 kJ/kWh
SFOC @ Diesel mode	183 g/kWh	185 g/kWh

Remarks
1) ISO 3046/1 reference conditions & optimized at the reference condition.
2) Heat rate & SFOC without engine driven pumps. (+5% tolerance)
3) Fuel gas L.H.V. ≧ 36 MJ/Nm³ with M.N. ≧ 80.
4) Warranted at 100% load.

■ Specific Lubricating Oil Consumption: 0.5 g/kWh

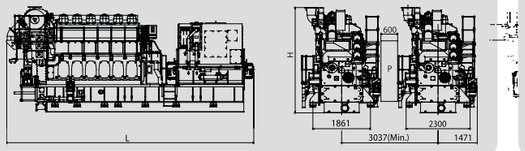
(Tolerance: +25% depending on the operating conditions and 100% load)



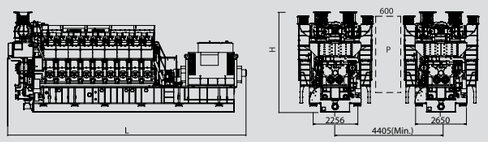
■ Dimensions & Weights

Engine Type	Dimension (mm)		Dry Weight (ton)	
	L	H	Engine	Gen-Set
6H35DF	8,890	4,367	34.7	69.6
7H35DF	9,486	4,538	39.6	78.1
8H35DF	10,196	4,538	42.5	83.0
9H35DF	11,189	4,538	45.6	90.1
12H35DFV	10,384	4,723	58.0	110.8
14H35DFV	11,155	4,723	65.3	123.3
16H35DFV	11,393	4,723	71.1	132.9
18H35DFV	12,444	4,794	78.3	143.2
20H35DFV	13,003	4,794	86.0	155.9

L - Type



V - Type



Remarks
- All dimensions and weight are approximate value and subject to change without prior notice.
- Free passage way, P, between engines, width 600 mm and height 2,000 mm.