



PACKAGED POWER STATION



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Santa-Elena 90 MW PPS in Ecuador
(HYUNDAI - HiMSEN 9H21/32 x 53 Sets)



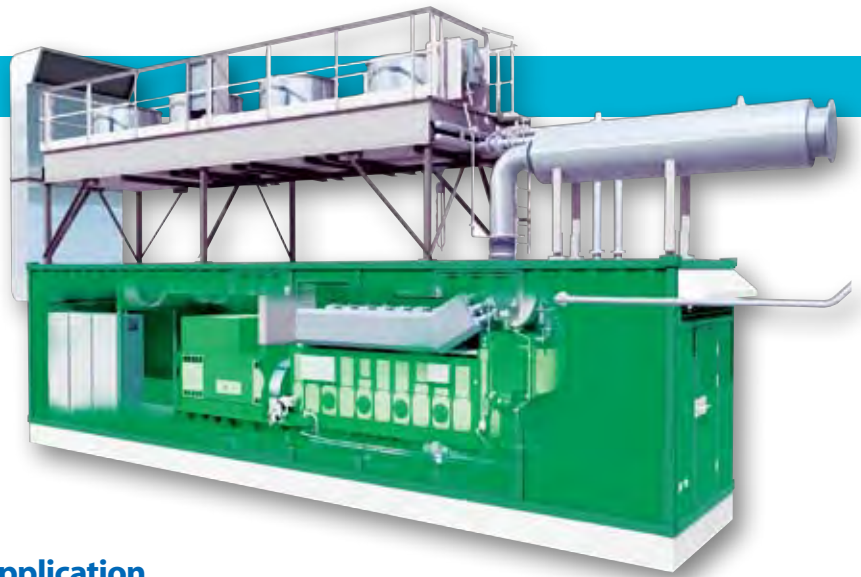
The Engine & Machinery Division of Hyundai Heavy Industries Co., Ltd. is one of the leading diesel engine manufacturers in the world. Hyundai takes great pride in being rated annually as the world's top diesel engine manufacturer since 1978.

Since it first successfully completed a 20 MW class engine power plant in Jeju island, Korea, Hyundai has expanded its activities and filled a key role in the global power market through completing engine power plants of high quality around the world as an EPC contractor.

Utilizing its vast experience acquired in constructing stationary power plants, Hyundai has developed a new generation of power system, there being high demand for newer technology with the conventional power system technology insufficient to meet current power clients' needs.

Hyundai has developed a new engine and an efficiently packaged power generating system using it of high functionality. Innovation is a hallmark of the world's top engine manufacturer, an expert in the design and construction of power plants.

The Packaged Power Station, a result of Hyundai's creative and technological progress, will bring contentment to previously unsatisfied power customers.



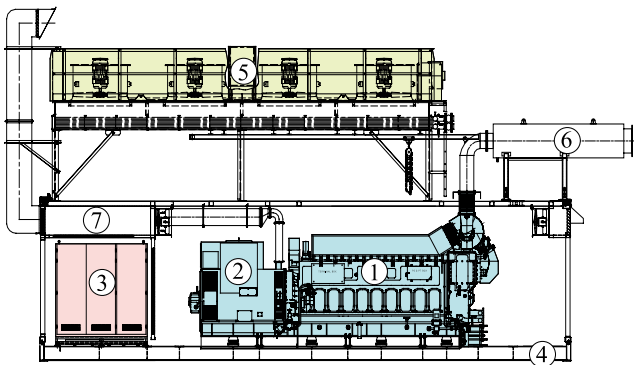
Features

- Base load operation
- Diesel oil / Heavy fuel oil / Natural gas use
- 40 ft container size
- Easy transportation
- Earth-friendly
- Low cost of operating and maintenance

Application

- Captive power
- Isolated area
- Pumping station
- Independent power producer

STRUCTURE



- ① Engine
- ② Generator
- ③ Control panel
- ④ Enclosure
- ⑤ Radiator
- ⑥ Exhaust gas silencer
- ⑦ Ventilation air exhaust fan

GENERAL SPECIFICATION

Engine Model	6H17/28	8H17/28	6H21/32	8H21/32	9H21/32
Engine (kW)	690 / 720	920 / 960	1,200	1,600	1,800
Generator (kW)	645 / 673	865 / 902	1,128	1,504	1,701
Total Weight (ton)	24	30	42	48	50
Dimension (W x H x L)	2.4m x 3.4m x 12m (Container Size)				
Cooling Method	Radiator / Cooling Tower				
Speed (rpm)	900 / 1,000				
Fuel	Diesel Oil / Heavy Fuel Oil				

※ The MCR will be based on ISO condition.



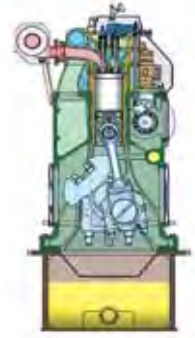
ENGINE LAYOUT

Engine Particulars

Spec.	Unit	H17/28		H21/32	
Bore	mm	170		210	
Stroke	mm	280		320	
Engine Speed	rpm	900	1,000	900	1,000
Output / Cyl.	kW	115	120	200	200
Piston Speed	m/s	8.4	9.3	9.6	10.7
BMEP	bar	24.1	22.7	24.1	21.7
SFOC*	g/kWh	189		183	185
L.C.V	kJ/kg	42,700			

1) L.C.V : Lower calorific value of fuel

★ 2) SFOC : Without engine driven pumps
Tolerance + 5%
At 100% load



H21/32



SYSTEM COMPARISON

Description	Hyundai System	Conventional
Engine Speed	900~1,000 rpm	1,500~1,800 rpm
Major Usage	Base Load Continuous Operation	Emergency Operation Peak-Cut
Fuel Use	Heavy Fuel Oil #6, Diesel Oil #2	Diesel Oil #2
Availability	More than 88%	Less than 50%
Maintenance	Simple & Easy Done at Site	Complicated Need to be move to shop
Fuel Consumption (SFOC*)	50Hz : 185 g/kWh 60Hz : 183 g/kWh	About 215 g/kWh
Life Time	More than 20 Years	Less than 10 Years
Maintenance Hour [Cyl. Head]	12,000 hr. Operation	7,500 hr. Operation

*SFOC : Without engine driven pumps

TECHNICAL SPECIFICATION

Item	Standard	Option
Fuel	Diesel Oil, Heavy Fuel Oil up to CIMAC H700	Crude Oil
Lube Oil	SAE 40	
Starting Method	Air Starting	Electric Starting (H17/28)
Generator Voltage	6.6 kV, 4.16kV	Up to 13.8 kV
Circuit Breaker	VCB or ACB	
Enclosure - Type - Sound Attenuation	Weather Proof 85 dB(A) at 1 meter distance	



Puerto-Principe 34 MW PPS in Haiti
(HYUNDAI - HiMSEN 9H21/32 x 20 Sets)



BioBio 13.6 MW PPS in Chile
(HYUNDAI - HiMSEN 9H21/32 x 8 Sets)



Namibia 10 MW PPS in Namibia
(HYUNDAI - HiMSEN 9H21/32 x 6 Sets)



Masaya 61 MW PPS in Nicaragua
(HYUNDAI - HiMSEN 9H21/32 x 36 Sets)



QUEVEDO 102MW PPS in Ecuador
(HYUNDAI-HiMSEN 9H21/32 x 60 Sets)



J-Project 5.6 MW PPS in Japan
(HYUNDAI - HiMSEN 9H21/32 x 4 Sets)