HYUNDAI INFRACORE GENERATOR ENGINE

GV222CB

Ratings (kWm)	Gross Engine Output			Net Engine Output		
	Standby	Prime	COP	Standby	Prime	COP
1500rpm(50Hz)	475	432	346	454	411	325
1800rpm(60Hz)	520	473	378	483	436	341

Ratings Definitions

The power ratings of Emergency Standby and Prime are in accordance with ISO 8528.
Fuel Stop power in accordance with ISO 3046.
Electric power (kWe) must be considered cooling fan loss, alternator efficiency, altitude derating and ambient temperature.

STANDBY POWER RATING is applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. A standby rated engine should be sized for a maximum of an 80% average load factor and 200 hours of operation per year. This includes less than 25 hours per year at the Standby Power rating.

PRIME POWER RATING is available for an unlimited number of hours per year in variable load application. Variable load should not exceed a 70% average of the Prime Power rating during any operating period of 24 hours. The Total operating time at 100% Prime Power shall not exceed 500 hours per year. A 10% overload capability is available for a period of 1 hour withing a 12 hour period of operation. Total operating time at the 10% overload power shall not exceed 25 hours per year.

◎ GENERAL ENGINE DATA	
○ Engine Model	GV222CB
○ Engine Type	4-Cycle, V-type, 12-Cylinder Diesel, water cooled, Turbo charged & intercooled
○ Bore x stroke	128 x 142 mm
○ Displacement	21.927 liters
□ Combustion type	Stoichiometric, Premixed and spark ignited
□ Cylinder Type	Replaceable wet liner
○ Compression ratio	10.2 : 1
○ Rotation	Counter clockwise viewed from Flywheel
○ Firing order	1-12-5-8-3-10-6-7-2-11-4-9
○ Ignition timing	Controlled by ECU
○ Dry weight (Engine)	1,560 Kg
○ Dimension (LxWxH; Engine)	1,961 X 1,182 X 1,710 mm
○ Fly wheel housing	SAE NO.1
○ Fly wheel	Clutch NO.14
○ Number of teeth on flywheel	160
◎ EXHAUST SYSTEM	
Maximum Back Pressure	5.9 kPa
◎ AIR INDUCTION SYSTEM	
Maximum Intake Air Restriction	
. With Clean Filter Element	2.5kPa
. With Dirty Filter Element	3.0kPa
○ Max. static pressure after Radiator	0.125 kPa

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◎ COOLING SYSTEM

Water circulation by centrifugal pump on engine.

○ Cooling method	Fresh water forced circulation
○ Coolant capacity	Engine Only : Approx. 53 lit., With Radiator : Approx.103 lit.(standard)
○ Coolant flow rate	650 liters / min @ 1800RPM Engine
○ Pressure Cap	90 kPa
○ Water Temperature	
- Maximum for standby and Prime	110°C
- Before start of full load	40.0°C
○ Water pump	Centrifugal type driven by Pulley
○ Thermostat Type and Range	Wax – pellet type, Opening temp. 71°C , Full open temp. 85°C
○ Cooling fan	Blower type, Plastic, 1,150 mm diameter, 8 blade
○ Max. external coolant system restriction	Not Available

◎ LUBRICATION SYSTEM

Forced-feed lubrication by gear pump, lubricating oil cooling in cooling water circuit of engine.

○ Lub. Method	Fully forced pressure feed type
○ Oil pump	Gear type driven by crank-shaft gear
○ Oil filter	Full flow, cartridge type
○ Oil capacity	Max. 40 liters , Min. 29 liters
○ Lub oil pressure	Idle Speed : Min 100 kPa
	Governed Speed : Min 300 kPa
○ Maximum oil temperature	130°C
○ Angularity limit	Front down 10 deg , Front up 10 deg , Side to side 22.5 deg
○ Lubrication oil	Refer to Operation Manual

◎ FUEL SYSTEM

In-line pump with integrated, electromagnetic actuator.

○ Carburetor	Woodward Electric Fuel Regulator
○ Governor	Controlled by ECU
○ Speed drop	G3 Class (ISO 8528)
○ Fuel pressure inlet range	1~5kPa
○ Used fuel	Pipeline Gas(NG), Wellhead Gas, Bio-Gas, Propane

◎ IGNITION SYSTEM

□ Spark plug	NGK IR IFR7AC-4D, 0.4mm air gap
□ Ignition coil	Woodward Coil - Smart Coil On Plug 24V, Ignition Coil W/Driver

◎ ELECTRICAL SYSTEM

○ Battery Charging Alternator	24V x 45A alternator
○ Voltage regulator	Built-in type IC regulator
○ Starting motor	24V x 7.0 kW
○ Battery Voltage	24V
○ Battery Capacity	200 Ah (recommended)
○ Starting aid (Option)	-

◎ VALVE SYSTEM

○ Type	Overhead valve type	
○ Number of valve	Intake 1, exhaust 1 per cylinder	
○ Valve lashes at cold	Intake 0.3mm , Exhaust 0.4mm	
○ Valve timing		
	Opening	Close
- Intake valve	24 deg. BTDC	36 deg. ABDC
- Exhaust valve	63 deg. BBDC	27 deg. ATDC

◎ PERFORMANCE DATA

		COP		Prime Power		Standby Power	
○ Governed Engine speed	rpm	1500	1800	1500	1800	1500	1800
○ Engine Idle Speed	rpm	800	800	800	800	800	800
○ Over speed limit	rpm	1650	1980	1650	1980	1650	1980
○ Gross Engine Power Output	kW	346	378	432	473	475	520
	PS	470	514	587	643	646	707
○ Break Mean effective pressure	MPa	1.29	1.17	1.61	1.47	1.77	1.61
○ Mean Piston Speed	m/s	7.1	8.52	7.1	8.52	7.1	8.52
○ Friction Power	kW	48	66	48	66	48	66
	PS	65	90	65	90	65	90
○ Specific fuel consumption							
- 25% load	kg/hr	29	32	31	35	34	38
- 50% load	kg/hr	46	48	49	57	55	62
- 75% load	kg/hr	63	66	69	79	78	86
- 100% load	kg/hr	82	84	90	100	100	110
○ Fan Power	kW	21	37	21	37	21	37
○ Sound Pressure at 1m from the each side of Cylinder Block							
(without Fan)	dB(A)	93.4	96.5	94.9	97.3	95.4	97.9

The all data and the specific fuel consumption are based on ISO 3046/1, Standard reference conditions are in accordance with 298 K(25˚ Celsius) air temperature, 100kPa(1000mbar) air pressure, 60% relative humidity, 110m(361ft) altitude.

Engine Data with Wet Type Exhaust Manifold

○ Intake Air Flow	kg/hr	1193	1242	1350	1499	1459	1632
○ Exhaust gas temp. after turbo.	°C	529	538	538	558	545	568
○ Exhaust Gas Flow	kg/hr	611	622	628	658	645	678
○ Heat Rejection to Exhaust	kW	209	216	258	266	285	294
○ Heat Rejection to Coolant	kW	289	405	333	466	358	493
○ Heat Rejetion to Intercooler	kW	21	25	28	32	31	36
○ Radiated Heat to Ambient	kW	121	71	146	89	155	97
○ Cooling water circulation	liters/min	560	650	560	650	560	650
○ Cooling fan air flow	m^3/min	1266	1510	1266	1510	1266	1510

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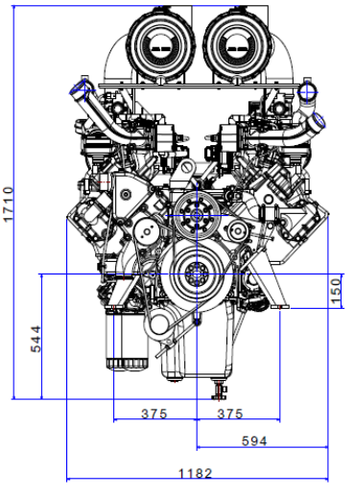
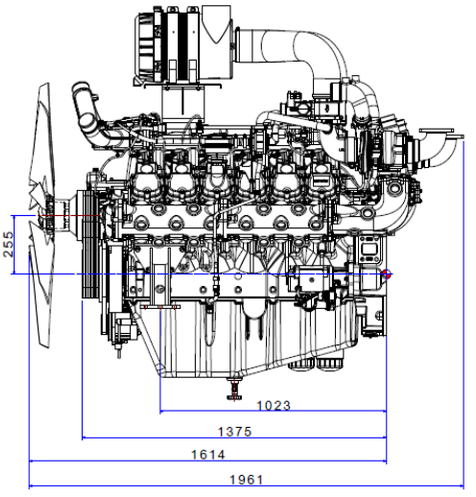
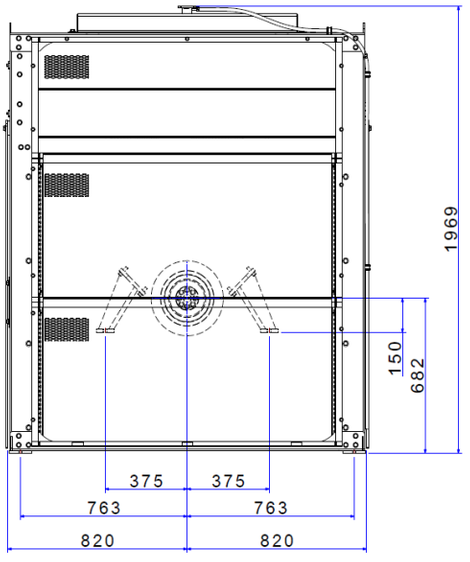
◆ ENGINE DIMENSION

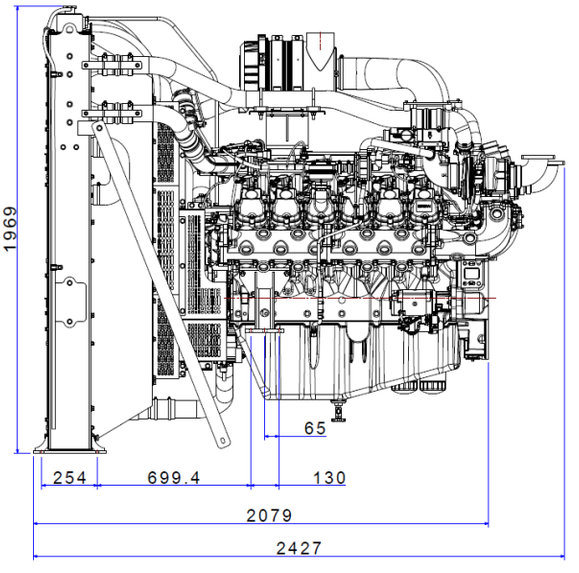
□ Dimensions : Engine





□ Dimensions : Gen-Pack





◆ CONVERSION TABLE

in. = mm x 0.0394	lb/ft = N.m x 0.737
PS = kW x 1.3596	U.S. gal = lit. x 0.264
psi = kg/㎠ x 14.2233	kW = kcal/sec x 4.184
in3 = lit. x 61.02	lb/PS.h = g/kW.h x 0.00162
hp = PS x 0.98635	cfm = ㎥/min x 35.336
lb = kg x 2.20462	MPa = kPa x 0.001 = bar x 0.1

HD Hyundai [redacted] R&D Center,
Korea [redacted]
T [redacted]
E-mail : [redacted]@hyundai-di.com

※ Specifications are subject to change without prior notice

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