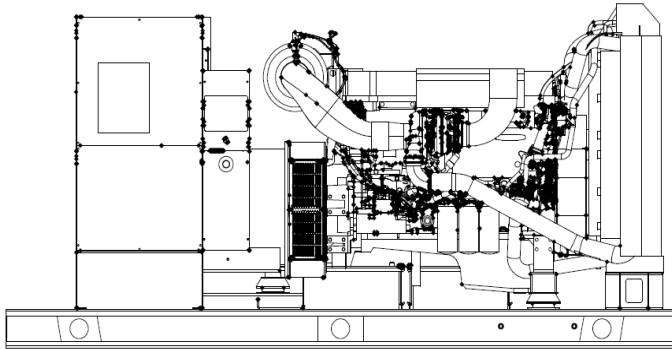


## MODEL HDI-600V



### 60Hz STANDBY POWER RATINGS

600kW/60Hz//1800RPM



VOLTAGE VAC	120/240V	120/208V	139/240V	277/480V	347/600V**
RATING	Standby	Standby	Standby	Standby	Standby
PHASE	1	3	3	3	3
PF	1.0	0.8	0.8	0.8	0.8
HZ	60	60	60	60	60
KW	N/A	600	590	600	600
KVA	N/A	750	738	750	750
AMPS	N/A	2082	1775	902	722

### Description

HIPOWER® Heavy Duty Industrial generators are an efficient, reliable and versatile source of back-up electrical power. Designed to operate in the most extreme working conditions. All HIPOWER® HD-Industrial generators combine an innovative design and the use of high quality materials that provide the user with the most dependable power that you can rely on for non-stop power with easy to operate controls.

Powered by a radiator-cooled, industrial VOLVO PENTA Diesel engine, which meets current Environmental Protection Agency (EPA) TIER 2 exhaust emission regulations, driving a single bearing, four-pole, three-phase alternator, with IP23 protection. The Emergency Power kVA rating for generator set is given with a 125 degree °C alternator winding temperature rise.

### HIPOWER® Features and Benefits

**VOLVO PENTA Diesel Engine:** Long-life, heavy-duty, 4-cycle, direct injection engine for economy of operation and maximum reliability and durability. Capable of full rated load acceptance in one step.

**Cooling:** Radiator with belt driven pusher fan.

**Air Filter:** Heavy-duty replaceable element air-cleaner.

**Alternator:** Single bearing, rotating field, self-excited, self-ventilated, 12-wire re-connectable, 60Hz brushless alternator with permanent magnetic generator (EBS), with Class F insulation. Automatic voltage regulator (AVR) providing close voltage regulation and skVA starting capability for electric motor loads.

### HIPOWER® Features and Benefits

**Enclosure:** Fully sound attenuated enclosure, fabricated using 7-gauge steel and thicker for the base, 12-gauge steel for the doors and 14-gauge for the enclosure, powder coated with finish that exceeds 1400-hr salt spray test. Ample layer of durable foam sound insulating material placed all around the inside of the container, doors and ducting with metal retaining frames. It can be cleaned with high-pressure water and is oil and fire resistant. Vertical air discharge for quiet operation. Wide steel lockable access doors with rubber seals, easy access for maintenance and service activities, lift off Die Cast Zinc hinges textured black powder coat, corrosion resistant hardware and fasteners.

**Exhaust:** Low noise, steel residential-type exhaust silencer with rain cap.

**Fuel Filtration:** Standard and secondary water separator with visible level on fuel filters

**Controls:** Digital control panel with manual and automatic start and stop features. Many programmable automatic functions for local and remote controls with LED lights, tamper proof engine hour recorder.

**Certification:** Generator set is UL 2200 Listed and CSA certified and meets ISO 8528-5. IBC seismic certified to the maximum force level requirements according to ICC-ES AC-156.

#### HIMOINSA POWER SYSTEMS, INC.

16600 South Theden Street, Olathe, KS 66062

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Codes and Standards Compliances used where applicable



## APPLICATION DATA

ENGINE SPECIFICATION		LUBRICATION SYSTEM	
Manufacturer	VOLVO PENTA	Oil pan capacity - gal (L)	11.1 (42)
Model	TWD1644GE	Oil pan capacity with filter - gal (L)	12.7 (48)
EPA certified	Tier 2	Oil cooler	Liquid
Crankshaft speed	1,800 rpm	Recommended lubricating oil grade	SAE 10W-30 (refer to owners manual)
Type	Diesel, 4-stroke	Oil consumption at full load	< 0.1% of fuel consumption
Injection	Direct	Oil pressure – psi (kPA)	94 (650)
Aspiration	Turbocharged	ENGINE ELECTRICAL SYSTEM	
Number of Cylinders	6	Starting motor voltage	24 volt
Cylinder arrangement	In-line	Cold Cranking Amps - minimum	300 Amp
Displacement CID (liters)	983.9 (16.12)	Battery charging Alternator	80 Amp
Bore and Stroke ins (mm)	5.67 x 6.50 (144 x 165)	Battery capacity	1400CCA 1720CA 430RC GROUP SIZE 8D
Nominal power	876 hp		
Cooling	Liquid		
Governor	Electronic Volvo/EMS 2		
Governor Regulation Class	ISO 8528 Part 1 Class G3		
Frequency Regulation	Isochronous		
Starting motor & alternator	24 Volt		
Compression ratio	16.5:1		
Air cleaner type	Heavy duty - single cartridge		
ALTERNATOR SPECIFICATION			
Manufacturer	STAMFORD		
Model 120/208V Three phase	HCI534F		
Model 277/480V Three phase	HCI534E		
Model 347/600V Three phase	HCI534F		
Alternator Type	Four pole, rotating field		
Excitation System	Brushless. PMG-excited		
Power factor	0.8		
Number of leads	12 leads, reconnectable		
Stator Pitch	2/3		
Insulation	Class H		
Windings – Temperature Rise	Class H (125/40° C)		
Enclosure (IEC-34-S)	IP23		
Bearing	Single, sealed		
Coupling	Flexible disc		
Amortisseur windings	Full		
Voltage regulation – no load to full load with MX341 AVR	± 1%		
TIF	<50		
Radio Frequency Emissions compliance	Meets requirements of most industrial and commercial applications		
Line harmonics	5% maximum		

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## STANDARD FEATURES

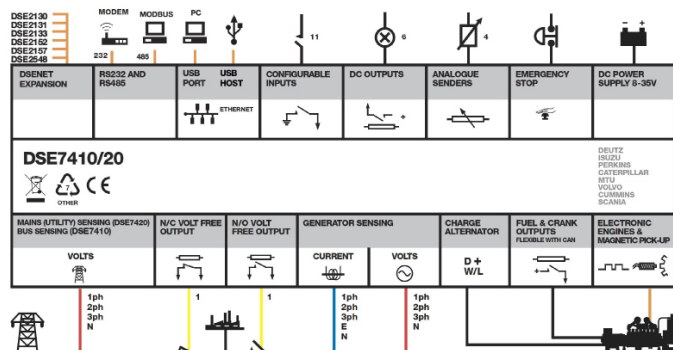
Enclosure (If selected)	Engine System	Fuel System
Rust-Proof Fastener with Nylon Washers Protect Finish	Oil Drain Extension	Primary Fuel Filter
High Performance Sound-Absorbing Material (L1)	Air Cleaner	Flexible fuel lines
Gasketed Doors	Fan Guard	<b>Generator set</b>
Air Discharge Hoods for Radiators-Upwards Pointing	Factory Filled Oil	2 Year/2000 hours Limited Warranty
Lift Off Door Hinges	Battery Charging Alternator	Separation of Circuits – Multiple Breakers (load center)
Stainless Steel Lockable Handles	<b>Alternator Systems</b>	Separation of Circuits – High / Low Voltage
Textured Polyester Powder Coat	12 Leads (3-Phase, Non 600V)	Internal Genset Vibration Isolation
<b>Cooling System</b>	Class H Insulation Material	Wrapped Exhaust Piping
Factory-Installed Radiator	Vented Rotor	Standard Factory Testing
Radiator Drain Extension	2/3 Pitch	Emergency Stop
50/50 Ethylene Glycol Antifreeze	Full Load Capacity Alternator	Silencer Mounted in the Discharged Hood (Enclosed Only)
<b>Electrical Systems</b>	Protective Thermal Switch	
Battery Cables and Battery Tray	Permanent Magnet Excitation	
Batteries	Skewed Stator	
	PMG with MX341	

## CONTROL SYSTEM



- Charge alternator failure alarm
- 4-Line back-lit LCD text display
- Front panel editing with PIN protection
- Customisable status screens
- Power save mode
- 11 configurable inputs
- 8 configurable outputs
- Flexible sensor inputs
- Configurable timers and alarms
- 3 configurable maintenance alarms
- Multiple date and time scheduler
- Configurable event log (250)

- “Protections disabled” feature
- kW protection
- Reverse power (kW) protection
- LED and LCD alarm indication
- Power monitoring (kWh, kVar, kVAh, kVArh)
- Load switching (load shedding and dummy load outputs)
- Independent Earth Fault trip
- Fuel usage monitor and low fuel alarms
- Configurable display languages
- User selectable simultaneous RS232, RS485 & Ethernet communications
- MODBUS RTU & TCP support
- Configurable MODBUS pages
- Fully configurable via DSE Configuration Suite PC software
- Data logging to assist with fault finding
- PLC editor allows user configurable functions to meet specific application requirements
- License-free PC software
- Multiple date and time scheduler
- DSENet® expansion compatible





## CONFIGURABLE OPTIONS

ENCLOSURE	ENGINE SYSTEM	ELECTRICAL SYSTEM
Open Skid	Oil heater	Battery Warmer
Level 1 Sound attenuated	120V-1ph Water Jacket Heater (with Isolation Valves)	10A Battery Charger
Level 2 Sound attenuated	208V-3ph Water Jacket Heater (with Isolation Valves)	5A Battery Charger
	<b>CIRCUIT BREAKER OPTIONS</b>	10 Positions Load Center (100Amps)
<b>ALTERNATOR SYSTEM</b>	Thermal-Magnetic trip 80% and 100% rated	Remote ESTOP with N3R break glass
Tropical coating	LS/I Electronic trip 80% and 100% rated	120V GFCI receptacle
Anti-condensation heater	LSI Electronic trip 80% and 100% rated	10A Relay common alarm
Alternator upsizing	LSIG Electronic trip 80% and 100% rated	10A Run Relay
Rheostat	Shunt trip	8 LED Remote Annunciator on Surface mounted Box
MX321 AVR	Auxiliary Contacts for Main and Secondary Breaker	16 LED Remote Annunciator on Surface mounted Box
	Second Main Line Circuit Breaker Mechanical Lugs	24 LED Remote Annunciator on Surface mounted Box
		Parallel controller with motorized breaker
		<b>GENERATOR SET</b>
		Extended Factory Load Testing
		Extended Warranty
		Seismic Mounts

## ENGINEERED OPTIONS

ENCLOSURE	ENGINE SYSTEM	ELECTRICAL SYSTEM
Snow Hood (only with L2)	Fluid Containment Pan	AC/DC Enclosure Lighting Kit with Timer
Air Outlet Gravity dampers		Enclosure Heater
Air Inlet motorized dampers (only with L2)		240V Twist lock receptacle
<b>CIRCUIT BREAKER OPTIONS</b>	<b>CONTROL SYSTEM</b>	<b>GENERATOR SET</b>
3rd Breaker system	Spare inputs (x4) / output (x4)	Special Testing
Shunt Trip on 3rd Breaker	DSE8610 - Parallel controller with motorized CB	
Auxiliary contact on 3rd Breaker	DSE2130 - DSENet Input Expansion Module	
<b>FUEL TANK</b>	DSE2157 - DSENet Output Expansion Module	
Custom Size – 72hr and 96hr	DSE855 - DSENet USB to Ethernet ModBus TCP/IP Communication Module	
Custom type to meet State spec.	DSE892 - DSENet USB to Ethernet ModBus TCP/IP - SNMP Comm. Module	
Vent Extensions	DSE2520 - Remote Display Module	
Overfill Protection Valve		





## OPERATING DATA

FUEL SYSTEM	
Recommended fuel	# 2 - ULSD
Fuel supply line, min. ID mm (in.)	-
Fuel return line, min. ID, mm (in.)	-
Max. lift, fuel pump, type, m (ft)	TBD
Fuel filter	Secondary 5 Microns @ 98% Efficiency

FUEL CONSUMPTION		(Standby Power Rating)
100% load	US gal/hr (L/hr)	42.3 (160)
75% load	US gal/hr (L/hr)	31.7 (120)
50% load	US gal/hr (L/hr)	21.1 (80)
25% load	US gal/hr (L/hr)	10.5 (40)

COOLING SYSTEM			
Engine cooling air flow	cfm (m³/min)	28,816	(818)
Alternator cooling flow	cfm (m³/min)	2,202	(62.1)
Combustion air flow	cfm (m³/min)	1,937	(54.8)
Total cooling air flow (engine+alternator+combustion)	cfm (m³/min)	32,955	(935)
Total cooling capacity	US gallons (liters)	15.85	(60)
Max. Operating Temperature	°F (°C)	122	(50)

EXHAUST			
Exhaust gas flow	cfm (m³/min)	4594	(130.1)
Max. Exhaust temp at full load degrees	°F (°C)	862	(461)
Max. permissible back pressure	in H2O (kPA)	40.1	(10)

## Starting Capabilities (sKVA)

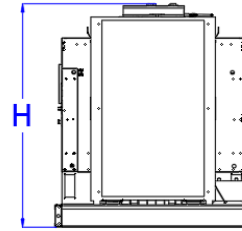
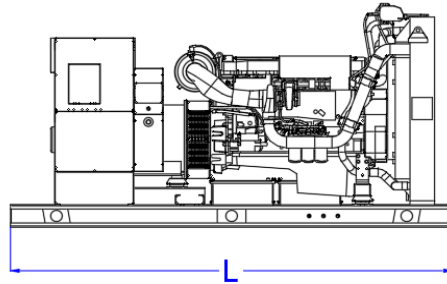
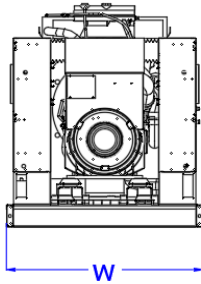
	480V					208/240V					600V				
	10%	15%	20%	25%	30%	10%	15%	20%	25%	30%	10%	15%	20%	25%	30%
Standard	550	860	1220	1625	2050	450	725	1040	1370	1760	560	880	1260	1680	2160
Upsized	600	950	1350	1800	2300	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

## Circuit Breaker

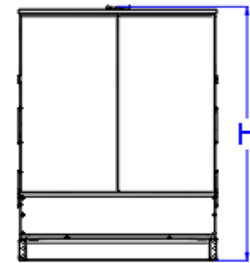
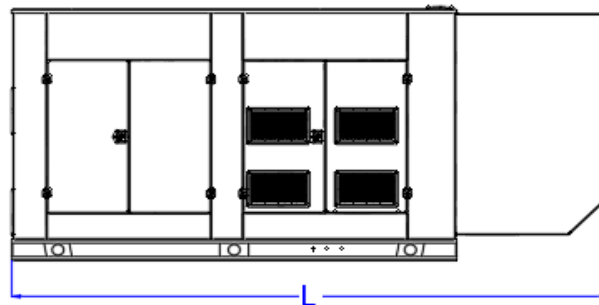
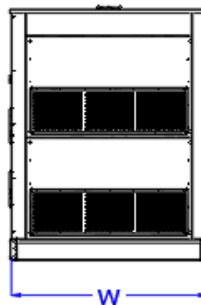
	277/480V	120/208V	120/240V	347/600V
Make and model	ABB T7SB1DB000000XX	ABB T8VBE3HC00000XX	ABB T8VBD3GC00000XX	ABB T6N800TW
Amps	1000 A	2500 A	2000 A	800 A



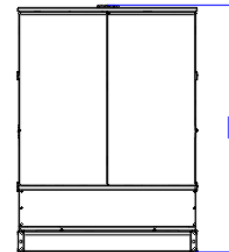
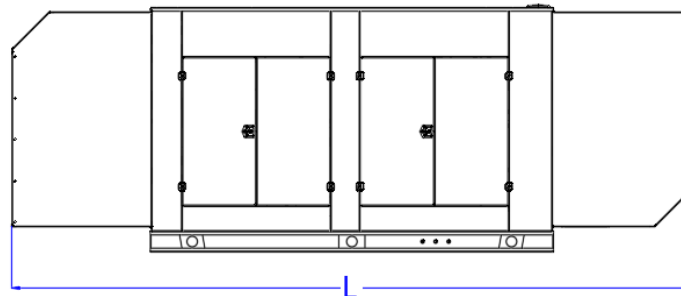
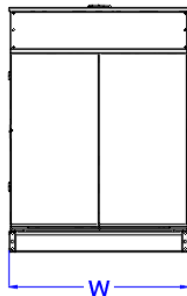
**DIMENSIONS, WEIGHTS & SOUND LEVELS**



CONFIGURATION	RUN TIME (HOURS)	USABLE CAPACITY (Gal.)	L = Length	W = Width	H = Height	Weight lbs	dBA
OPEN SET	No Tank	-	154"	68.5"	81.2"	8,000	N/A
	24	1,016	231"	68.5"	24"	4,000	
	48	2,000	277"	68.5"	36"	6,300	



CONFIGURATION	RUN TIME (HOURS)	USABLE CAPACITY (Gal.)	L = Length	W = Width	H = Height	Weight lbs	dBA
LEVEL 1 ENCLOSURE	No Tank	-	207"	68.5"	93.1"	9,300	79
	24	1,016	231"	68.5"	24"	4,000	
	48	2,000	277"	68.5"	36"	6,300	



CONFIGURATION	RUN TIME (HOURS)	USABLE CAPACITY (Gal.)	L = Length	W = Width	H = Height	Weight lbs	dBA
LEVEL 2 ENCLOSURE	No Tank	-	260"	68.5"	93.1"	9,700	77
	24	1,016	284"	68.5"	24"	4,000	
	48	2,000	284"	68.5"	36"	6,300	

\* All measurements are approximate and for estimation purposes only. Weights are without fuel tank. Sound levels measured at 23ft (7m) and does not account for ambient site conditions.



Conforms to UL STD 2200  
Certified to CSA STD C22.2#100  
Certified to CSA STD C22.2#14

REV-05

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