

SOUNDPROOF DIESEL GENERATING SETS

DCA-LS Series

Powerful & Eco Friendly
Low Emission type
25kVA~400kVA



Denyo

100LS

LOW EMISSION & SILENT GENERATOR

ECO FRIENDLY

Clean Engine Meeting Japan's Stringent Exhaust Gas Regulations

“DCA-LS Series” is compliant with Stage III of Japanese exhaust gas regulations by the MLIT Japan.

In line with Japan's exhaust gas reduction regulations, DCA-LS Generators are equipped with super-high-tech clean engine systems, including common-rail type fuel injectors,*1 which inject fuel at the optimum pressure for the load by raising the fuel pressure, as well as Cooled Exhaust Gas Recirculation (EGR)*2, which is a technology that reduces NOx generation by returning some of the exhaust gas to the air supply line. A cooler is also installed in the exhaust returning line to cool down exhaust gases.

These power generators are clean, quiet, and capable of meeting increasingly stringent environmental requirements. Further, we have adopted Positive Crankcase Ventilation (PCV) type engines that generate no blow-by gas. (Isuzu and Kubota engines are used.) There are also other series of power generators equipped with our original blow-by gas treatment systems that can keep the insides of the generators clean.

*1 Equipped DCA-60LS and above.

*2 Equipped DCA-45LS and above (except DCA-150LS)

Quiet operation

Exceptionally quiet operation accomplished through the use of state-of-the-art soundproofing technology. “DCA-LS Series” is designated “Super low noise construction equipment” or “Low noise construction equipment” by the MLIT Japan.

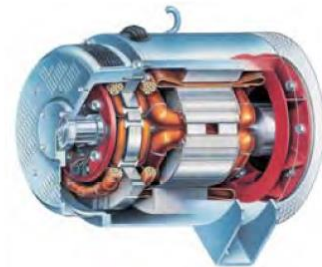


HIGH PERFORMANCE

Equipped with High Performance Generator

Power Generators with Less Waveform Distortion and Voltage Fluctuation

With their intensified damper wiring, our generators are less vulnerable to waveform distortion, even when the load applied to the rectifiers changes. They are also highly resistant to negative-sequence current. Moreover, since they can restrict voltage fluctuation, they can resist inverter load, thyristor load, and computer control load. They are suitable for lighting at event sites, precision apparatuses, and measurement equipment.



Generators with Good Motor Activation

The transient reactance of our generators is low, and with the introduction of original excitation systems, their motor activation performance is good. Moreover, since our generators can reduce instantaneous voltage drops and can restore voltage in a short period of time, they have little effect on the other electric equipment when starting up devices sequentially.

Parallel Operation Feature (DCA-125LS and above.)

From time to time, at a construction site, mine site or in other situations, a large temporary power supply is required for a particular job. To meet this requirement Denyo's DCA-LS Series generators incorporate a built-in parallel operation drive system, allowing you to create a large capacity generating plant on-site, without the need to procure any other equipment.



Dual Voltage System (DCA-45LS/60LS/DCA-100LS and above.)

For companies that operate internationally or have motors that require power at different voltages, a different generator is usually required for each voltage setting. However, the DCA-LS Series generators are equipped with a dual voltage system, so one generator can be used to power motors with different voltage settings. An extremely convenient feature.



Generators Equipped with Electronic Governors

Equipped with electronic governors that control the engine speed electronically, our generators can maintain a constant RPM regardless of the amount of load applied (isochronous control*1). You can shift the control method to droop control if the purpose of use so requires, and you can control the speed using switches in a control box.*2

*1: Only isochronous control mode is available for DCA-25LS and 45LS.

*2: Power generators from DCA-60LS to 400LS series are set to droop control upon shipment from the plant.

* Power generators above DCA-60LS class are equipped with a control mode change switch.



HIGH DURABILITY

Durable Generators Withstanding Long-Term Wear

We develop, manufacture, and assemble all components other than the engines ourselves. We perform stringent durability tests and quality inspections with the assumption that the generators will be used under severe conditions, and so they boast outstanding quality and durability.



Salt Damage-Resistant Specification

Assuming that power generators will be used at offshore construction sites or coastal sites, all of our generators use a cation electrodeposition coating method for high rust resistance. In addition, rust-resistant tightening bolts are used, and stainless bolts are used for all generators above DCA-220LS.

For DCA-300LS and DCA-400LS, insulation performance deterioration prevention treatment is applied to generators and controlling components. The bonnets are coated with chlorine-resistant paint, and caulking treatment is performed as a standard. (The above treatment is available for generators of other series as an option.)



SAFETY DEVICE

Automatic Safety Controls

The generating set shall be equipped with automatic safety controls which will shut down the engine in the event of any abnormal condition.

	Engine shut down	Circuit breaker will trip	Alarm lamp
Low lubricating oil pressure	○	—	○
High jacket water temp.	○	—	○
Over current of generator	—	○	—
Earth leakage	—	○	○
Fuel level failure	—	—	○
Air element blinding	—	—	○
Over speed	○	—	○※1

*Except DCA-25LS

Earth Leakage Relay

To prevent electric shock, it is recommended that these generators are equipped with leakage detectors and a relay circuit breaker.



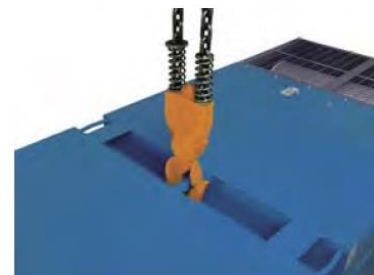
Engine Failure Diagnosis Device

DCA-150LS, DCA-300LS, and DCA-400LS are each equipped with a failure diagnosis device, and in the event of engine failure, the monitor will display 80 failure factors. This system enables you to immediately identify the damaged portions and restore the failures smoothly. (Failures are indicated with preheat display lamps for DCA-25 to 45, and with flashing light patterns on the control boxes for DCA-60LS, 100LS, 125LS, and 220LS.)



TRANSPORTABILITY

- The new designs of the DCA Series range have achieved significant size and weight reductions over previously produced models, through improvements in coupling techniques and alternator design.
- The sturdy weatherproof steel bonnet on a heavy-duty steel skid base allows easy handling by a forklift.
- The balance point lifting hook (lug) fitted on the roof of each machine facilitates easy transportation using a crane.
- All models are modular designed, so that generators can be stacked, thereby making the best use of your valuable storage area.



MAINTENANCE

Large Doors & One-Touch Handles

We have adopted large doors for easy daily inspection and maintenance. The doors have one-touch handles, making them smooth to open and close. They are also equipped with a key lock system.



Easy Daily Maintenance

We have adopted a one-side maintenance system to allow daily maintenance on one side, including maintenance of engine oil, batteries, and cooling water, etc.

Easy Cleaning of Radiators

The open/close-type front covers we have adopted make it easy to clean the radiators without removing them.



OPERABILITY

- Operation switches and meters are arranged functionally, and a one-panel system has been adopted so that the equipment is easy to understand and operate even for people who are unfamiliar with it. Every generator is also equipped with a high-visibility digital engine monitor as a standard.

-The control panel switches are arranged in accordance with operation procedures, and each switch has a number, so that anybody can switch them on and off safely and without error.

-Thanks to the electronic governor system, you can change the engine speed with just a single touch of a switch instead of the conventional lever operation.

FULLY APPOINTED CONTROL PANELS FOR EASE OF USE AND MONITORING GENERATOR PERFORMANCE.

① Indicator
Engine Speed, Oil Press., Water Temp., Battery

② Fuel Level Indicator

③ Warning Lamp
Oil Pressure, Water Temperature, Air Filter, Over Speed

④ Hour Meter

⑤ Frequency Meter

⑥ Panel Light Switch

⑦ Panel Light

⑧ AC Ammeter

⑨ Pilot Lamp

⑩ Voltmeter

⑪ Earth Leakage Relay

⑫ Output Voltage Indication Lamp

⑬ Circuit Breaker (1-Phase, 3-Phase)

⑭ Emergency Stop Button

⑮ Voltage Regulator

⑯ Speed Regulator

⑰ Starter Switch

⑱ Single-Parallel Change Over Switch

⑲ Speed Change Over Switch

⑳ Frequency Change Over Switch

㉑ Synchronizing Lamp

① Indicator
Engine Speed, Oil Press., Water Temp., Battery

② Fuel Level Indicator

③ Warning Lamp
Oil Pressure, Water Temperature, Air Filter, Over Speed

④ Hour Meter

⑤ Frequency Meter

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⑰ Starter Switch

⑱ Single-Parallel Change Over Switch

⑲ Speed Change Over Switch

⑳ Frequency Change Over Switch

㉑ Synchronizing Lamp

SPECIFICATION TABLE (25kVA~125kVA CLASS SOUNDPROOF TYPE)

MODEL		DCA-25LSK		DCA-45LSK		DCA-60LSI		DCA-100LSI		DCA-125LSI	
AC Generator											
Frequency	Hz	50	60	50	60	50	60	50	60	50	60
Output Rating	Continuous	20	25	37	45	50	60	80	100	100	125
	kVA ¹⁾	Standby	22	27.5	38.9	47.3	55	66	88	110	138
No. of Phases		3-Phase,4-Wire									
Rated Voltage ²⁾		50Hz:190~220 /380~440 60Hz:190~240 /380~480									
Power Factor		0.8(Lagging)									
Voltage Regulation %		Within ±0.5									
Excitation		Brushless ,rotating exciter(With A.V.R)									
Insulation		Class F									
Engine											
Model		Kubota V2403-K3A		Kubota V3800-DI-T-K3A		Isuzu BJ-4JJ1X		Isuzu BI-4HK1X		Isuzu BI-4HK1X	
Type		Inlined, Swirl Chambered		Inlined, Direct Injected Turbocharged		Common Rail, Inlined, Direct Injected, Turbocharged					
Output Rating	Ps/rpm	25.9/1500	32.2/1800	51.6/1500	62.0/1800	65.1/1500	77.6/1800	124.5/1500	154.5/1800	124.5/1500	154.5/1800
	kW/min ⁻¹	19.1/1500	23.7/1800	38.0/1500	45.6/1800	47.9/1500	57.1/1800	91.6/1500	113.6/1800	91.6/1500	113.6/1800
No. of Cylinders-Bore×Stroke mm		4-87×102.4		4-100×120		4-95.4×104.9		4-115×125		4-115×125	
Piston Displacement L		2.434		3.769		2.999		5.193		5.193	
Fuel		ASTM No. 2 Diesel Fuel or Equivalent									
Fuel Consumption ³⁾		3.9	4.9	7.0	8.8	8.6	10.3	14.0	18.1	17.1	21.7
Lube Oil Sump Capacity L		9.7		13.2		15.0		23.0		23.0	
Coolant Capacity L		7.9		10.9		11.8		25.0		27.0	
Battery×Quantity		80D26R×1		115D31R×1				170F51×1			
Fuel Tank Capacity L		70		100		140		225		250	
UNIT											
Dimensions	Length mm	1540		1850		2090		2550		2650	
	Width mm	700		880		950		1080		1080	
	Height mm	950		1250		1280		1500		1500	
Dry Weight kg		615		985		1160		1770		1920	
Sound Power Level											
7m dB(A) 1500/1800rpm(min ⁻¹) ⁴⁾		59	64	58	61	61	65	60	64	60	64
LwA dB No load,60Hz		89●		87●		91●		92●		92●	
Exhaust gas regulations		Stage III (Japanese)									

*1 Depending on voltage, output rating(kVA) may differ from values listed in catalog. *2 Depending on location and area, output voltage may differ from values listed in catalog.

*3 Fuel consumption is based on operation at 75% load.*4 Sound level reflects high-speed no-load operation and is calculated by averaging the measurements at four points, each 7 meters from the source.

●: Super low noise construction equipment designated by the MLIT Japan



DCA-25LSK



DCA-45LSK



DCA-60LSI



DCA-100LSI



DCA-125LSI

SPECIFICATION TABLE (150kVA ~ 400kVA CLASS SOUNDPROOF TYPE)

MODEL		DCA-150LSK		DCA-220LSI		DCA-300LSK		DCA-400LSK	
AC Generator									
Frequency	Hz	50	60	50	60	50	60	50	60
Output Rating	Continuous	125	150	200	220	270	300	350	400
	kVA ¹ Standby	138	165	220	242	297	330	385	440
No. of Phases		3-Phase, 4-Wire							
Rated Voltage ²		50Hz: 190~220 / 380~440 60Hz: 190~240 / 380~480							
Power Factor		0.8(Lagging)							
Voltage Regulation %		Within ±0.5						Within ±1.0	
Excitation		Brushless, rotating exciter(With A,V,R)							
Insulation		Class F							

Model		Komatsu SAA6D107E-1-C		Isuzu BH-6UZ1X		Komatsu SAA6D125E-5-B		Komatsu SAA6D140E-5-C	
Type		Common Rail, Inlined, Direct Injected, Turbocharged							
Output Rating	Ps/rpm	153.6/1500	183.6/1800	276/1500	312/1800	318.2/1500	352.2/1800	421.6/1500	485.5/1800
	kW/min ⁻¹	113/1500	135/1800	203/1500	230/1800	234/1500	259/1800	310/1500	357/1800
No. of Cylinders-Bore×Stroke mm		6-107×124		6-120×145		6-125×150		6-140×165	
Piston Displacement L		6.69		9.839		11.04		15.24	
Fuel		ASTM No. 2 Diesel Fuel or Equivalent							
Fuel Consumption ³ L/h		24.2	30.7	33.1	36.0	45.7	52.0	58.9	70.4
Lube Oil Sump Capacity L		24.8		41.0		61		84	
Coolant Capacity L		25.4		41.6		54.4		62.5	
Battery×Quantity		95E41R×2		145G51×2 or 155G51×2				190H52×2 or 210H52×2	
Fuel Tank Capacity L		250		380		490			

UNIT		DCA-150LSK		DCA-220LSI		DCA-300LSK		DCA-400LSK	
Dimensions	Length mm	3250		3600		4000		4500	
	Width mm	1080		1350		1470		1500	
	Height mm	1550		1650		1800		2100	
Dry Weight kg		2390		3430		4650		6040	

Sound Power Level									
7m dB(A) 1500/1800rpm(min ⁻¹) ⁴		61	65	62	66	67	71	66	71
LwA dB No load, 60Hz		94●		93●		100○		100○	
Exhaust gas regulations		Stage III (Japanese)							

*1 Depending on voltage, output rating(kVA) may differ from values listed in catalog. *2 Depending on location and area, output voltage may differ from values listed in catalog.
 *3 Fuel consumption is based on operation at 75% load. *4 Sound level reflects high-speed no-load operation and is calculated by averaging the measurements at four points, each 7 meters from the source.
 ●: Super low noise construction equipment designated by the MLIT Japan ○: Low noise construction equipment designated by the MLIT Japan



DCA-150LSK



DCA-220LSI



DCA-300LSK



DCA-400LSK

ECO-BASE TYPE <25kVA~400kVA> DCA-LSE Series

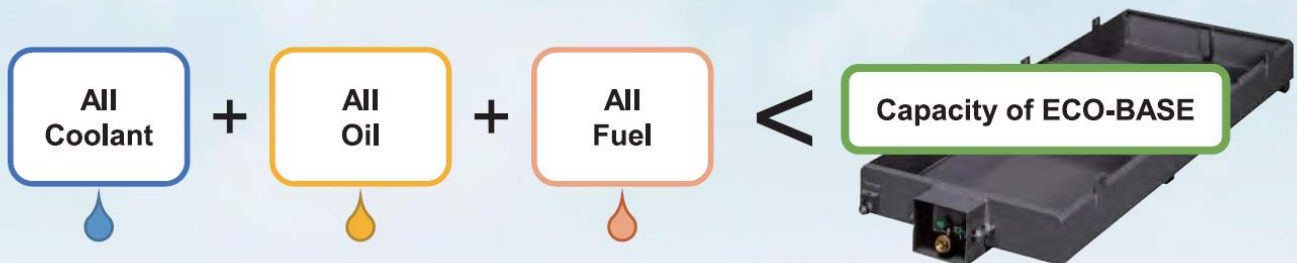
What is ECO-BASE?

ECO-BASE is a base which has an oil receiver installed inside. You do not need to put an extra tray on the bottom of generator. It is designed to receive fuel, oil and coolant water when they are discharged accidentally.



Expanded Spatial Capacity in ECO-BASE

DCA-E series is designed to keep out rainwater almost entirely during operation. Even if rainwater infiltrates inside the generator, it will be received into the ECO-BASE. It will collect large quantity of all liquids used in the equipment. The capacity is more than 100% of total volume of fuel, oil and coolant.



Advanced Function in ECO-BASE

Simple Fluid Level Indicator

Fluid Level Warning Lamp gauges the level of fluid inside the ECO-BASE. It lights up immediately when fluid reaches 50% capacity.



Fluid Level Warning Lamp

Quick and Easy Detachment

ECO-BASE can easily be detached by removing all bolts*.

It is extremely easy to clean and maintain.

* DCA-25LSKE/25USIE/150LSKE/220LSIE/300LSKE



Easy to Drain

Water and oil collected in ECO tank drains easily through large caliber drain valve.

Swivel-type oil drain increases the speed of draining compared to conventional type.



Large Caliber



Swivel-type Oil Drain

Spill Proof Re-fueling

The fuel filler door is designed to prevent infiltration of rainwater and fuel spilling during draining of fuel out of the generator.



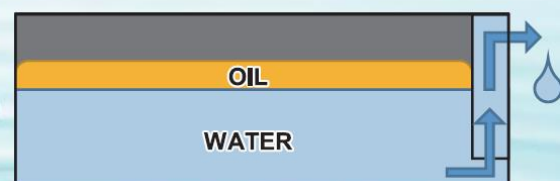
Fuel Filler Door for DCA-25LSKE



Fuel Filler Door for DCA-45LSKE and above.

Water & Oil Separating Structure

ECO-BASE is designed to separate water and oil. Water will be discharge first before oil when ECO-BASE is filled to maximum capacity.



Mechanism of Separating Oil and Water

SPECIFICATION TABLE (25kVA ~ 60kVA CLASS SOUNDPROOF ECO-BASE TYPE)

MODEL	DCA-25LSKE		DCA-45LSKE		DCA-45LSKE2		DCA-60LSIE		
AC Generator									
Frequency	Hz	50	60	50	60	50	60	50	60
Output Rating kVA ^{*1}	Continuous	20	25	37	45	37	45	50	60
	Standby	22	27.5	38.9	47.3	38.9	47.3	55	66
No. of Phases		3-Phase,4-Wire							
Rated Voltage ^{*2}	V	50Hz:190~220 / 380~440 60Hz:190~240 / 380~480							
Power Factor		0.8(Lagging)							
Voltage Regulation	%	Within ±0.5							
Excitation		Brushless ,rotating exciter(With A.V.R)							
Insulation		Class F							
Engine									
Model		Kubota V2403-K3A		Kubota V3800-D1T-K3A		Kubota V3600-T-K3A		Isuzu BJ-4JJ1X	
Type		Inlined, Swirl Chambered		Inlined,Direct Turbocharged		Inlined, Swirl Chambered Turbocharged		Common Rail,Inlined,Direct Injected,Turbocharged	
Output Rating	Ps/rpm	25.9/1500	32.2/1800	51.6/1500	62.0/1800	43.6/1500	53.3/1800	65.1/1500	77.6/1800
	kW/min ⁻¹	19.1/1500	23.7/1800	38.0/1500	45.6/1800	32.1/1500	39.2/1800	47.9/1500	57.1/1800
No. of Cylinders-Bore×Stroke	mm	4-87×102.4		4-100×120		4-98×120		4-95.4×104.9	
Piston Displacement	L	2.434		3.769		3.620		2.999	
Fuel		ASTM No. 2 Diesel Fuel or Equivalent							
Fuel Consumption ^{*3}	L/h	3.9	4.9	7.0	8.8	7.2	9.0	8.6	10.3
Lube Oil Sump Capacity	L	9.7		13.2		15.0			
Coolant Capacity	L	7.9		10.9		11.8			
Battery×Quantity		80D26R×1		115D31R×1		115D31R×1			
Fuel Tank Capacity	L	70		110		140			
UNIT									
Dimensions	Length	mm 1540		mm 1850		mm 2090			
	Width	mm 700		mm 880		mm 980			
	Height	mm 1045		mm 1350		mm 1350			
Eco Base Capacity	L	88		135		168			
Dry Weight	kg	660		1070		1060		1260	
Sound Power Level									
7m dB(A) 1500/1800rpm(min ⁻¹) ^{*4}		61	63	55	59	58	60	59	63
LwA dB No load,60Hz		88●		85●		85●		90●	
Exhaust gas regulations		Stage III(Japanese)							

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DCA-25LSKE



DCA-45LSKE



DCA-45LSKE2



DCA-60LSIE

SPECIFICATION TABLE (100kVA ~ 220kVA CLASS SOUNDPROOF ECO-BASE TYPE)

MODEL		DCA-100LSIE		DCA-125LSIE		DCA-150LSKE		DCA-220LSIE	
AC Generator									
Frequency	Hz	50	60	50	60	50	60	50	60
Output Rating	Continuous	80	100	100	125	125	150	200	220
	kVA ^{*1}	88	110	110	138	138	165	220	242
No. of Phases		3-Phase, 4-Wire							
Rated Voltage ^{*2}	V	50Hz: 190~220 / 380~440							
		60Hz: 190~240 / 380~480							
Power Factor		0.8(Lagging)							
Voltage Regulation %		Within ±0.5							
Excitation		Brushless, rotating exciter(With A.V.R)							
Insulation		Class F							
Engine									
Model		Isuzu BI-4HK1X		Isuzu BI-4HK1X		Komatsu SAA6D107E-1-C		Isuzu BH-6UZ1X	
Type		Common Rail, Inlined, Direct Injected, Turbocharged							
Output Rating	Ps/rpm	124.5/1500	154.5/1800	124.5/1500	154.5/1800	153.6/1500	183.6/1800	276/1500	312/1800
	kW/min ⁻¹	91.6/1500	113.6/1800	91.6/1500	113.6/1800	113/1500	135/1800	203/1500	230/1800
No. of Cylinders-Bore×Stroke mm		4-115×125		4-115×125		6-107×124		6-120×145	
Piston Displacement L		5.193		5.193		6.69		9.839	
Fuel		ASTM No. 2 Diesel Fuel or Equivalent							
Fuel Consumption ^{*3} L/h		14.0	18.1	17.1	21.7	24.2	30.7	33.1	36.0
Lube Oil Sump Capacity L		23.0		23.0		24.8		41.0	
Coolant Capacity L		25.0		27.0		25.4		41.6	
Battery×Quantity		170F51×1		170F51×1		95E41R×2		145G51×2 or 155G51×2	
Fuel Tank Capacity L		250		250		250		400	
UNIT									
Dimensions	Length mm	2550		2550		3250		3600	
	Width mm	1080		1080		1150		1350	
	Height mm	1600		1600		1650		1750	
Eco Base Capacity L		299		300		300		487	
Dry Weight kg		1880		2020		2550		3710	
Sound Power Level									
7m dB(A) 1500/1800rpm(min ⁻¹) ^{*4}		61	64	60	63	63	66	63	65
LwA dB No load.60Hz		91●		92●		94●		93●	
Exhaust gas regulations		Stage III(Japanese)							

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DCA-100LSIE



DCA-125LSIE



DCA-150LSKE



DCA-220LSIE

SPECIFICATION TABLE (300kVA ~ 400kVA CLASS SOUNDPROOF ECO-BASE TYPE)

MODEL		DCA-300LSKE		DCA-400LSKE		DCA-400LSIE	
AC Generator							
Frequency	Hz	50	60	50	60	50	60
Output Rating	Continuous	270	300	350	400	350	400
	kVA ^{*1} Standby	297	330	385	440	385	440
No. of Phases		3-Phase, 4-Wire					
Rated Voltage ^{*2}	V	50Hz:190~220 / 380~440 60Hz:190~240 / 380~480					
		0.8(Lagging)					
Voltage Regulation %		Within ±0.5					
Excitation		Brushless ,rotating exciter(With A.V.R)					
Insulation		Class F					
Engine							
Model		Komatsu SAA6D125E-5-B		Komatsu SAA6D140E-5-C		Isuzu BH-6WG1X	
Type		Common Rail, Inlined, Direct Injected, Turbocharged					
Output Rating	Ps/rpm	318.2/1500	352.2/1800	421.6/1500	485.5/1800	420.2/1500	470.4/1800
	kW/min ⁻¹	234/1500	259/1800	310/1500	357/1800	309/1500	346/1800
No. of Cylinders-Bore×Stroke mm		6-125×150		6-140×165		6-147×154	
Piston Displacement L		11.04		15.24		15.681	
Fuel		ASTM No. 2 Diesel Fuel or Equivalent					
Fuel Consumption ^{*3} L/h		45.7	52.0	58.9	70.4	57.0	67.3
Lube Oil Sump Capacity L		61		84		55	
Coolant Capacity L		54.4		62.5		60	
Battery×Quantity		145G51×2 or 155G51×2				190H52×2 or 210H52×2	
Fuel Tank Capacity L		490					
UNIT							
Dimensions	Length mm	4000		4500		4600	
	Width mm	1470		1500		1450	
	Height mm	1850		2250		2200	
Eco Base Capacity L		612		684		679	
Dry Weight kg		4900		6360		5480	
Sound Power Level							
7m dB(A) 1500/1800rpm(min ⁻¹) ^{*4}		68	72	66	71	65	68
LwA dB No load, 60Hz		100 ○				96 ○	
Exhaust gas regulations		Stage III(Japanese)					

*1 Depending on voltage, output rating(kVA) may differ from values listed in catalog. *2 Depending on location and area, output voltage may differ from values listed in catalog.

*3 Fuel consumption is based on operation at 75% load. *4 Sound level reflects high-speed no-load operation and is calculated by averaging the measurements at four points, each 7 meters from the source.

● : Super low noise construction equipment designated by the MLIT Japan
○ : Low noise construction equipment designated by the MLIT Japan



DCA-300LSKE



DCA-400LSKE



DCA-400LSIE

Eco Base Generator with Large-Capacity Fuel Tank

<25kVA~220kVA> DCA-B Series

Equipped with a Large-Capacity Fuel Tank and Eco Base

The body structure of the unit integrates a large-capacity fuel tank and Eco Base with an engine generator. Even if engine oil or coolant should leak into the interior of the engine generator, this structure allows it to be collected in the Eco Base at the lower part of the generator to prevent spillage to its exterior.



Extend fuel tank Generator

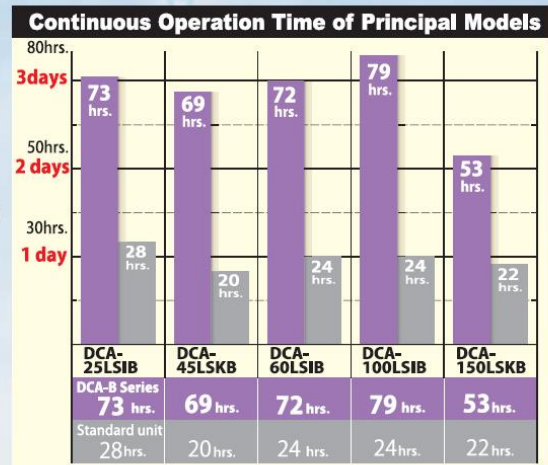


ECO-BASE

Large-capacity fuel tank

Large-capacity fuel tank allows continuous operation for extended periods.

The inclusion of a fuel tank with larger capacity than standard units enables continuous operation for extended periods without the need to connect external fuel tanks, for up to approximately 3 days with just a single refueling.



Specialized Equipment Features for DCA-B Series

Unit structure to prevent rainwater infiltration

Even in heavy rainfall, the amount of water infiltrating into the unit will be kept to a minimal volume of only 0.1 L.



Fluid level warning lamps(2-stage display)

If oil or rainwater accumulates in the Eco Base, notification will be given by the warning lamps on the control panel.



50% 100%

Pull-out oil drain

The drain can be pulled outward by removing a fastening bolt, for more convenient oil replacement.



Lockable fueling port

Even if there are spills during fueling, the structure will prevent any leakage to the exterior. Since the fuel port door is equipped with a lock, fuel theft can also be prevented.



One-touch drain

Uses a 1-inch large-diameter drain valve, allowing rainwater or other liquids collected in the Eco Base to be easily drained and disposed of.



Body structure allowing easy mounting and removal of the generator

Easy mounting and removal of the main generator unit is possible just by disconnecting bolts and hoses. This makes cleaning and maintenance of the Eco Base simple and convenient.



SPECIFICATION TABLE (25kVA~60kVA CLASS SOUNDPROOF LARGE-CAPACITY FUEL TANK TYPE)

MODEL		DCA-25LSKB		DCA-25LSIB*		DCA-45LSKB		DCA-60LSIB	
AC Generator									
Frequency	Hz	50	60	50	60	50	60	50	60
Output Rating	Continuous	20	25	20	25	37	45	50	60
	kVA ¹ Standby	22	27.5	22	27.5	38.9	47.3	55	66
No. of Phases		3-Phase,4-Wire							
Rated Voltage ²		50Hz:190 ~220V / 380 ~440V 60Hz:190~240V / 380~480V							
Power Factor		0.8(Lagging)							
Voltage Regulation		Within ±0.5							
Excitation		Brushless ,rotating exciter(With A.V.R)							
Insulation		Class F							
Engine									
Model		Kubota D2403-K3A		Isuzu BV-4LE2		Kubota V3800-DI-T-K3A		Isuzu BJ-4JJ1X	
Type		Inlined, Direct Injected		Inlined, Swirl Chambered		Inlined, Direct Injected		Common Rail, Inlined, Direct Injected,	
Output Rating	Ps/rpm	25.9/1500	32.2/1800	25.9/1500	31.1/1800	51.6/1500	62.0/1800	65.1/1500	77.6/1800
	kW/min ⁻¹	19.1/1500	23.7/1800	19.1/1500	22.9/1800	38.0/1500	45.6/1800	47.9/1500	57.1/1800
No. of Cylinders-Bore ×Stroke mm		4-87×102.4		4-85×96		4-100×120		4-95.4×104.9	
Piston Displacement L		2.434		2.179		3.769		2.999	
Fuel		ASTM No. 2 Diesel Fuel or Equivalent							
Fuel Consumption ³ L/h		3.9	4.9	3.7	4.5	6.9	8.8	8.6	10.3
Lube Oil Sump Capacity L		9.7		8.7		13.2		15.0	
Coolant Capacity L		7.9		6.4		10.9		11.8	
Battery×Quantity		80D26R×1				115D31R×1			
Fuel Tank Capacity L		175				350		420	
UNIT									
Dimensions	Length mm	1540		1540		1850		2090	
	Width mm	700		700		880		980	
	Height mm	1260		1230		1600		1540	
Dry Weight kg		735		695		1160		1300	
Sound Power Level									
7m dB(A) 1500/1800rpm(min ⁻¹) ⁴		57	61	57	59	56	58	59	62
LwA dB No load.60Hz		87●		85●		86●		90●	
Exhaust gas regulations		Stage III(Japanese)							

*DCA-25LSIB is production on order.

* 1 Depending on voltage, output rating(kVA) may differ from values listed in catalog. * 2 Depending on location and area,output voltage may differ from values listed in catalog.

* 3 Fuel consumption is based on operation at 75% load. * 4 Sound level reflects high-speed no-load operation and is calculated by averaging the measurements at four points, each 7 meters from the source.

● : Super low noise construction equipment designated by the MLIT Japan



DCA-25LSKB



DCA-25LSIB



DCA-45LSKB



DCA-60LSIB

SPECIFICATION TABLE (100kVA~220kVA CLASS SOUNDPROOF LARGE-CAPACITY FUEL TANK TYPE)

MODEL		DCA-100LSIB		DCA-125LSIB		DCA-150LSKB		DCA-220LSIB	
AC Generator									
Frequency	Hz	50	60	50	60	50	60	50	60
Output Rating	Continuous	80	100	100	125	125	150	200	220
	kVA ^{*1} Standby	88	110	110	138	138	165	220	242
No. of Phases		3-Phase,4-Wire							
Rated Voltage ^{*2}		50Hz:190~220V /380~440V 60Hz:190~240V / 380~480V							
Power Factor		0.8(Lagging)							
Voltage Regulation %		Within ±0.5							
Excitation		Brushless ,rotating exciter(With A.V.R)							
Insulation		Class F							
Engine									
Model		Isuzu BI-4HK1X		Isuzu BI-4HK1X		Komatsu SAA6D107E-1-C		Isuzu BH-6UZ1X	
Type		Common Rail,Inlined,Direct Injected,Turbocharged							
Output Rating	Ps/rpm	124.5/1500	154.5/1800	124.5/1500	154.5/1800	153.6/1500	183.6/1800	276/1500	312/1800
	kW/min ⁻¹	91.6/1500	113.6/1800	91.6/1500	113.6/1800	113/1500	135/1800	203/1500	230/1800
No. of Cylinders-Bore ×Stroke mm		4-115×125		4-115×125		6-107×124		6-120×145	
Piston Displacement L		5.193		5.193		6.69		9.839	
Fuel		ASTM No. 2 Diesel Fuel or Equivalent							
Fuel Consumption ^{*3} L/h		14.0	18.1	17.1	21.7	24.2	30.7	33.1	36.0
Lube Oil Sump Capacity L		23.0		23.0		24.8		41.0	
Coolant Capacity L		20.6		20.6		25.4		41.6	
Battery×Quantity		170F51×1				95E41R×2		145G51×2 or 155G51×2	
Fuel Tank Capacity L		750		750		900		990	
UNIT									
Dimensions	Length mm	2550				3180		3550	
	Width mm	1150				1150		1400	
	Height mm	1800				2000		2050	
Dry Weight kg		2050		2160		2990		3860	
Sound Power Level									
7m dB(A) 1500/1800rpm(min ⁻¹) ^{*4}		59	63	59	63	60	65	61	64
LwA dB No load,60Hz		90●		91●		94●		93●	
Exhaust gas regulations		Stage III(Japanese)							

* 1 Depending on voltage, output rating(kVA) may differ from values listed in catalog. * 2 Depending on location and area,output voltage may differ from values listed in catalog.

* 3 Fuel consumption is based on operation at 75% load.* 4 Sound level reflects high-speed no-load operation and is calculated by averaging the measurements at four points, each 7 meters from the source.

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DCA-100LSIB



DCA-125LSIB



DCA-150LSKB



DCA-220LSIB

Options

Remote Control Devices

The engine generator can be remotely changed from low speed to high speed operation, started and stopped, and otherwise controlled. The ability to perform these procedures automatically or manually at the location where work is being performed when the engine generator is separated by a considerable distance provides high fuel and oil savings, extends engine life substantially, and leads to a surprising level of reduction in manpower and energy requirements. In addition, this also minimizes noise and exhaust gas discharge levels, and in turn helps improve the worksite environment.

Automatic Idling Device

Automatic Idling Device

Provided as standard feature for DCA-220LS and above

This device automates warm-up operation when the engine is started. The addition of a remote-control box allows remote changeover between low-speed and high-speed operation. (Please note that the engine cannot be started and stopped with the remote-control box.)

Remote Controller

For DCA-220 and above

This device allows the engine starting/stopping and automatic idling function (idling when engine is started) to be operated from a remote location. In addition to a switch for changeover between high-speed and low-speed operation, the remote-control box has a high-speed/low-speed operation indicator lamp, a startup warning lamp (comes on when generator set is not started up using normal remote controller operation) and a malfunction indicator lamp (illuminated when the emergency stop device is triggered.)



Automatic Oil Lubrication Device

For DCA-220LS to 400LS.

This system automatically maintains engine oil at the proper level, making it possible to reduce costs for oil-related maintenance, and eliminates the need to check the engine oil level.



Automatic Fuel Replenishment Device

For DCA-25LS to 150

When the level in the unit tank drops after an extended period of operation, a level sensor detects this and an electric pump is operated to automatically replenish fuel in the unit tank from a separate tank.

(Cannot be used with three-way valve.)

Salt Corrosion Resistant Specifications

For DCA-25LS to DCA-220LS, provided as standard feature for DCA-300LS and 400LSK.

These specifications are designed for when the unit will be used on the coast or on the ocean, and include treatment to prevent insulation resistance from dropping, and corrosion resistant treatment of the parts.

Parallel Operation Device

A variety of optional devices are available to change from manual parallel operation to the desired type of automatic operation. Select the desired option from the table below according to the power supply application, site conditions and other factors.

Operation Method	Engine Starting / Stopping	Synchronization Verification/ Activation	Load Sharing	Remarks
Manual Parallel Operation Device	Manual	Manual	Manual	Standard feature for DCA-125LS to 400LS
Automatic Load Sharing Device	Manual	Manual	Automatic	For DCA-220LS and above
Automatic Parallel Operation Device	Manual	Auto operation with pushbutton	Automatic	For DCA-220LS and above.
Fully Automatic Parallel Operation Device With EASY GEN Controller	Semi-automatic Automatic	Automatic	Automatic	Refer to (4) below for applicable units.

(1) **Manual Parallel Operation Device:** Parallel operation system with unique Denyo AVR equipped with a cross-current compensation circuit (CCR system). This is the most inexpensive system, where no additional equipment is required for the DCA-125 and above.

(2) **Automatic Load Sharing Device:** This device operates a governor motor to share the load uniformly among the respective generators when parallel operation is being performed. It facilitates stable parallel operation, and dramatically reduces the workload of monitoring during parallel operation.

(3) **Automatic Parallel Operation Device:** The troublesome synchronization verification and synchronization activation process can be automatically performed by simply pressing a pushbutton. After synchronization is activated, the Automatic Load Sharing Device is capable of performing stable parallel operation.

(4) **Fully Automatic Parallel Operation Device:**

High-speed digital control enables all operations from starting and stopping to synchronization verification, synchronization activation and load sharing to be performed at the touch of one button. This device has multiple functions that enable parallel operation of generators with differing capacities, the number of units being operated to be controlled and other operations.

Applicable models:

-DCA-125LSIE:EASY GEN 2500

-DCA-220LSI to 400LS:EASY GEN 3500



EASY GEN 2500



EASY GEN 3500

5) The generator may be classified as a normal use generator according to the Electricity Enterprises Law depending upon the installation and operation procedure. Consult with a sales person for details.

Trailer

Trailers can be fitted to generators to facilitate on-site movement.

(trailers for DCA-60LS and below are two-wheel; those for DCA-100LS through 400LS are four-wheel)

Bolt connectors make mounting and dismounting simple.



Two-wheel type



Four-wheel type

Other Options

The following options are also available:

– **Reverse power relay**

For DCA-125LS and above.

– **AC power meter**

For DCA-125LS and above.

– **Bearing/stator temperature gauge**

For DCA-125LS and above.

– **Lubricant temperature gauge**

Provided as standard feature for DCA-220LS and above.

– **Keyed fuel tank cap**

For DCA-25LSKE, 25LSK to 400LSK

Provided as standard feature for DCA-45LSKE to 400LSKE,
DCA-25LSKB to 220LSIB

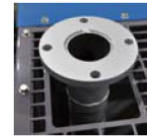
– **Keyed rear door**



– **3 way valve**



– **Mounting of muffler flange**



*Other options for different ranges and operating capabilities are available. Please feel free to consult with Denyo.

* Some options may not be available depending upon the model. Confirm the details with a Denyo sales person.

HOW TO SELECT A GENERATOR

Range of motor capacities that can be used with Denyo generators.

Choosing generator output according to motors and other loads is made simple by referring to the motor capacity range and generator output in this table.

Item \ Model		DCA-25		DCA-45		DCA-60		DCA-100		DCA-125	
Frequency (Hz)		50	60	50	60	50	60	50	60	50	60
EG capacity (kVA)		20	25	37	45	50	60	80	100	100	125
Motor capacity (kW)	Direct startup	6.3	7.6	12.3	14.9	16	20.5	27.2	34.5	34.5	42.5
	Y-Δ startup (1)	9.5	11.4	18.5	22.4	24	30.8	40.8	51.8	51.8	63.8
	Y-Δ startup (2)	15.7	19.5	28.2	34.3	38.4	46	62	68	68	97

Item \ Model		DCA-150		DCA-220		DCA-300		DCA-400	
Frequency (Hz)		50	60	50	60	50	60	50	60
EG capacity (kVA)		125	150	200	220	270	300	350	400
Motor capacity (kW)	Direct startup	42.5	51	68	76	91	102	119	136
	Y-Δ startup (1)	63.8	76.5	102	114	136	153	179	204
	Y-Δ startup (2)	97	115	154	172	208	231	270	308

Motor usage examples in the above table are benchmark values : generator capacity will differ according to the required momentary voltage drop, motor load factor, and size of startup capacity, as well as motor age and efficiency.

Notes

- Momentary voltage drop when a motor starts up is assumed to be within 30% of no-load voltage.
- Motor startup kVA is assumed to be 7kVA per 1kW.
- Motor efficiency is assumed to be 85%, and load factor about 90%.
- Values shown for Y-Δ startup (1) and Y-Δ startup (2) are open and closed, respectively; needed generator capacity differs depending on startup state.
- Not appropriate for determining the capacity of emergency generating equipment (especially disaster-prevention generating equipment).



ISO 9001:2008 Certified
ISO 14001:2004

Denyo[®] The Denyo trademark is widely recognized as a brand, and is a registered trademark in 90 countries around the world.

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