Power source technology for the future

Denyo®

## DIESEL ENGINE DRIVEN GENERATOR

# DCA-Series

## Denyo : Making a Difference on Worksites

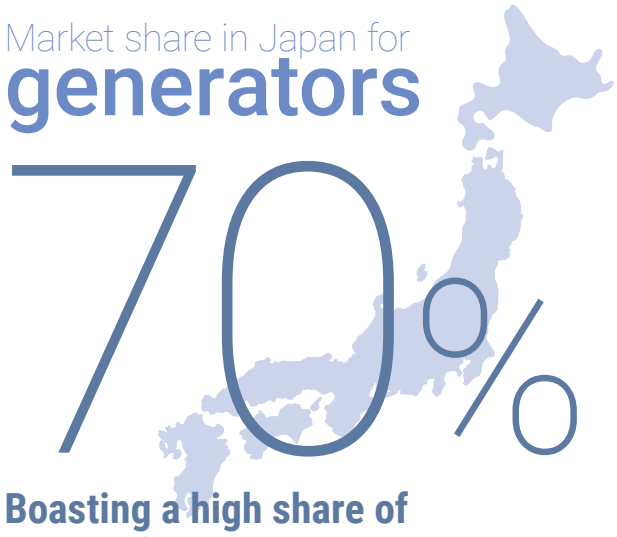
# Worldwide

We use electricity every day, taking it for granted. However, there are a surprising number of situations in which electricity supplied by the power company cannot be used or when there is not enough electricity, such as on construction sites, during disasters, and in developing countries. At such times, we supply as much electricity as is needed, whenever and wherever. And we meet the expectations of customers around the world. Taking this as its mission, Denyo has been working to develop better products ever since its foundation.

# CONTENTS



# Denyo's Strengths





## Boasting a high share of the Japanese market, Denyo is a leading company in outdoor power sources

Since its establishment in 1948, Denyo has firmly created its own technology, including the release of high-performance, engine-driven generators featuring excellent energy savings and the commercialization of Japan's first small, lightweight engine-driven welders, and has launched a succession of products specialized for use in outdoor locations without sources of power. As a result, today Denyo has grown into a leading company in outdoor power sources, with a market share of 70% in Japan for engine-driven generators, our main product.

## Our products are used in 150 countries worldwide

Featuring excellent reliability and durability, high sound insulation, and supplying quality electricity, Denyo's generators are used not only as power sources on construction sites but also as precious sources of power for daily life in developing countries and sparsely populated deserts, isolated islands, and mountainous areas not reached by electricity.
They are also used as power sources for events and as backup power sources in times of disaster and power outages. Thus far, our generators have helped people throughout the world, having been selected in important situations, for example, by customers as the power source for Singapore's Independence Day ceremonies and for reconstruction of the areas affected by the major earthquake in Haiti.

## Quality products that come from thorough start-to-finish production from design to product finishing

One reason we can create such high-quality products is our thoroughly integrated production of everything besides the engines, from design and manufacture of machine parts to assembly and finishing. Integrated production also enables us to provide products that truly meet customers' individual needs by rapidly manufacturing made-to-order products.

### We carefully manufacture generator coils from a single wire

Winding of copper wire to the rotor by automatic winding machine

Varnishing of rotors for protection against vibrations, corrosion and harmful substances

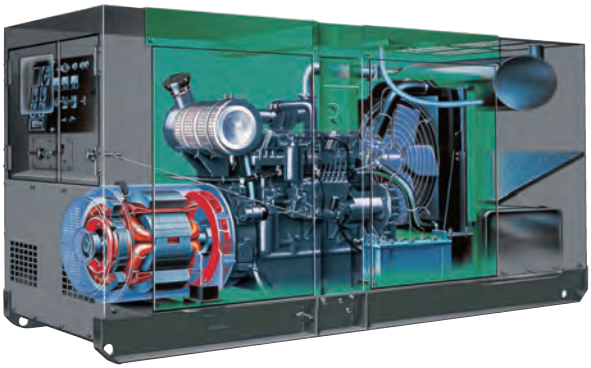
# High-Performance

## The Denyo generating system guarantees the following levels of performance

| | |
|---|---|
| TEMPERATURE RISE | 100°C temperature rise at 40°C ambient (JEC2130*1). |
| INSULATION | Class F (JEC2130) or Class H (JEC2130) |
| VOLTAGE REGULATION | Within ±0.5% (except DCA-400SPKII & DCA-400ESK) |
| FREQUENCY REGULATION | Within 5.0% through noload to full-load. |
| VOLTAGE WAVEFORM | Deviation Factor of open-circuit terminal voltage does not exceed 0.06. |
| ELECTROMAGNETIC INTERFERENCE | Attenuated to meet most commercial requirements. |
| INSULATION RESISTANCE | Higher than 3 Mega-ohms, measured between armature windings and earth, field windings and earth, field control circuit and earth. |

*1 Standard of Japanese Electrotechnical Committee

The innovative excitation system* fitted on all models, in conjunction with the AVR and advanced brushless generator, provides fast voltage regulation in response to load variations, enabling use soon after start up. This system provides output stability during load variations.
*U.S.Patent No.4268788



## Parallel Operation Feature

(Standard feature for DCA-125 to 800.)

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 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

(Details are as per specification table.)

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 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.

## Equipped with Electronic Governors

(Details are as per specification table.)

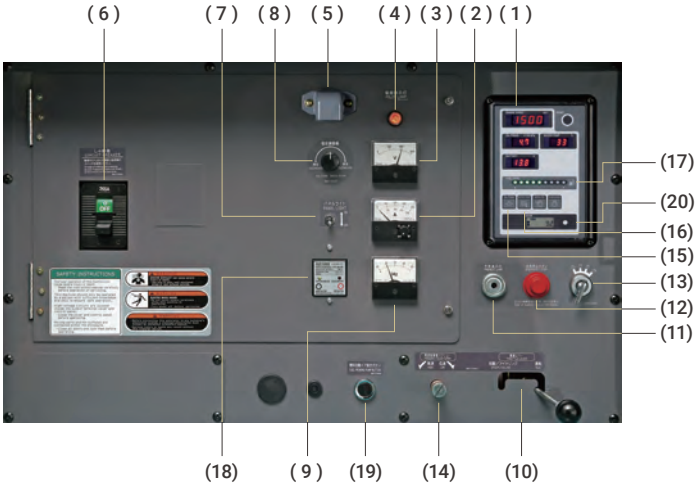
Equipped with electronic governors that control the engine speed electronically, our generators can maintain a constant RPM regardless of the amount of load applied (isochronous control*1). You can shift the control method to droop control if the purpose of use so requires, and you can control the speed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

*1 Generator from DCA-60USIE and above are set to droop control upon shipment from the plant.
*2 Only isochronous control mode is available for DCA-45USKE

# User-Friendly

## Control Panel with Outstanding User-Friendliness

Denyo's generators feature a functional panel layout that can be easily operated even by first-timers.




| | |
|---|---|
| (1) Indicator | (11) Preheat Lamp |
| (2) AC Ammeter | (12) Emergency Stop Button |
| (3) Voltmeter | (13) Starter Switch |
| (4) Pilot Lamp | (14) Frequency Adjust Screw |
| (5) Panel Light | (15) Warning Lamp(Oil Pressure) |
| (6) Circuit Breaker | (16) Warning Lamp(Water Temperature) |
| (7) Panel Light Switch | (17) Fuel Level Indicator |
| (8) Voltage Regulator | (18) Earth Leakage Relay |
| (9) Frequency Meter | (19) Fuel Priming Pump Button |
| (10) Throttle Lever | (20) Hour Meter |

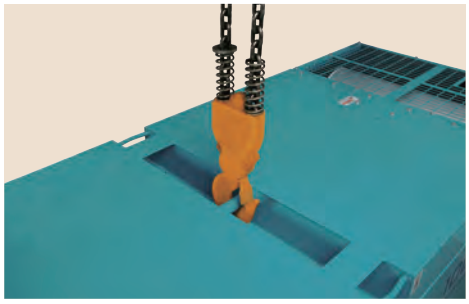

Output Terminal

- Large fuel gauge is fitted for simple viewing.
- External drain plugs for oil, fuel and water are fitted for convenience in performing routine maintenance.


-All daily maintenance requirements can be performed from one side of the machine. The large doors give you full access to the engine.
-For major engine overhauls, the bonnet can be simply unbolted, which allows full access to the engine.


### Transportability

-The new designs of the DCA Series range have achieved significant size and weight reductions over previously producted 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.



# Safety

## Provision of Various Protective Devices and Warning Lamps

-A circuit breaker is provided to protect the generator from shorting of the load circuit or an overload.
-An emergency stop device is provided to automatically detect an engine malfunction and shut down the unit as well as a warning lamp.

| Item \ Operation Display | Engine Shut down | Circuit breaker will trip | Alarm Lamp |
|---|---|---|---|
| Low Oil Pressure | ○ | ○*1 | ○ |
| High water temperature | ○ | ○*1 | ○ |
| Over Current | – | ○ | – |
| Earth leakage | – | ○ | ○ |
| Insufficient charging | ○ | – | ○ |
| Low fuel level | –(○*2) | –(○*2) | ○ |
| Air Element Blinding*3 | – | – | ○ |
| Over-speed*3 | ○ | ○*4 | ○(–*5) |

Mark ○ : Operates Mark – :Does not operate
*1 DCA-125 and above. *2 DCA-1100SPK, DCA-1100SPM2 only.
*3 DCA-45 and above. *4 Exclude DCA-125SPK3, DCA-100ESI and below.
*5 Exclude DCA-1100SPM2.

## Earth Leakage Relay

To prevent electric shock, it is recommended that these generators are equipped with Earth Leakage Relay.

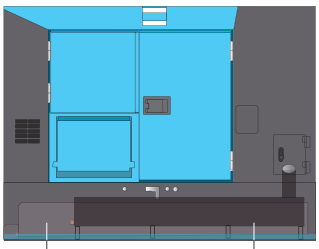

## Emergency Stop Button


# Environment-Friendly

## ECO-BASE

(DCA-25USIE/45USKE/25MZ/45MZ/60USIE)

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.



ECO-BASE (Oil Receiver) Fuel Tank

## 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

## 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

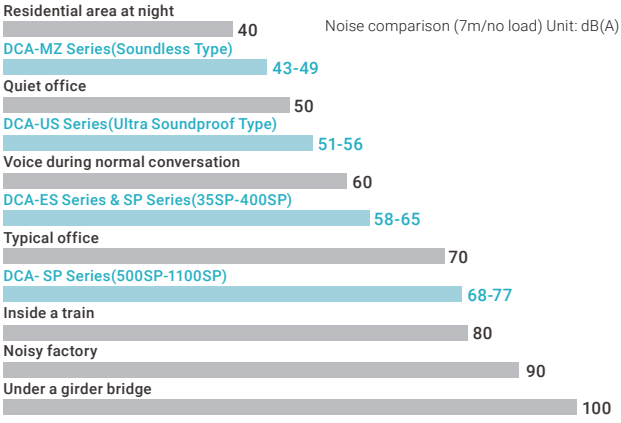
## Quiet Operation

Denyo's generators run quietly thanks to the Company's original soundproofing technology. The Soundless Type & Ultra Soundproof Type in particular features a low-noise engine, low-noise fan, the addition of a silencer, and special structures such as changes to the hood shape, which create a low noise level similar to that of a quiet office.

Soundless Type

Ultra Soundproof Type

Soundproof Type



# SPECIFICATION TABLE

(10.5kVA - 45kVA CLASS SOUNDPROOF TYPE)

| | | DCA-13LSK | | DCA-15LSK | | DCA-25ESK | | DCA-25ESI | | DCA-35SPK | | DCA-45LSK2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ALTERNATOR** | | | | | | | | | | | | | |
| Frequency | Hz | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 |
| Output Rating (kVA) | Continuous | 10.5 | 13 | 12.5 | 15 | 20 | 25 | 20 | 25 | 30 | 35 | 37 | 45 |
| | Standby | 11 | 13.7 | 13.8 | 16.5 | 22 | 27.5 | 22 | 27.5 | 31.5 | 36.75 | 37 | 45 |
| No. of Phases | | 3-Phase, 4-Wire | | | | | | | | | | | |
| Rated Voltage*1 | | (1) or (3) Single Voltage | | | | (2) Dual Voltage | | | | (1) or (3) Single Voltage | | (2) Dual Voltage | |
| Power Factor | | 0.8 (Lagging) | | | | | | | | | | | |
| Voltage Regulation | % | Within ±0.5 | | | | | | | | | | | |
| Excitation | | Brushless, Rotating Exciter ( With A.V.R.) | | | | | | | | | | | |
| Insulation | | Class F | | | | | | | | | | Class H | |
| **ENGINE** | | | | | | | | | | | | | |
| Maker & Model | | Kubota D1403-K3A | | Kubota D1703-K3A | | Kubota V2203-KB | | Isuzu AA-4LE2 | | Kubota V3300-EB | | Kubota V3600-T-K3A | |
| Type | | Inlined, Swirl Chambered | | | | | | Inlined, Direct Injected | | Inlined, Swirl Chambered | | | |
| Output Rating | PS/rpm | 13.9/1500 | 16.9/1800 | 16.9/1500 | 20/1800 | 25/1500 | 32.2/1800 | 26/1500 | 32/1800 | 38.5/1500 | 44.1/1800 | 45.0/1500 | 51.3/1800 |
| | kW/rpm | 10.2/1500 | 12.4/1800 | 12.4/1500 | 14.7/1800 | 18.4/1500 | 23.71800 | 19.1/1500 | 23.5/1800 | 28.3/1500 | 32.4/1800 | 33.1/1500 | 37.7/1800 |
| No.of Cylinders-Bore x Stroke | mm | 3-80×92.4 | | 3-87×92.4 | | 4-87×92.4 | | 4-85×96 | | 4-98×110 | | 4-98x120 | |
| Piston Displacement | L | 1.393 | | 1.647 | | 2.197 | | 2.179 | | 3.318 | | 3.620 | |
| Fuel | | ASTM No. 2 Diesel Fuel or Equivalent | | | | | | | | | | | |
| Fuel Consumption*2 | L/h | 2.4 | 2.9 | 2.8 | 3.4 | 3.9 | 4.9 | 3.3 | 4.2 | 5.8 | 6.9 | 7.1 | 8.9 |
| Lube Oil Sump Capacity | L | 5.6 | | 5.6 | | 7.6 | | 8.5 | | 13.2 | | 13.2 | |
| Coolant Capacity | L | 6.4 | | 6.4 | | 7.9 | | 6.6 | | 10.5 | | 10.9 | |
| Battery x Quantity | | 80D26R×1 | | | | | | | | 95D31Rx1 | | 115D31Rx1 | |
| Fuel Tank Capacity | L | 62 | | | | | | 70 | | 82 | | 100 | |
| Engine Emissions | | Stage III (Japanese) | | | | Stage II (Japanese) | | | | Stage I (Japanese) | | Stage III (Japanese) | |
| **UNIT** | | | | | | | | | | | | | |
| Dimensions | Length mm | 1390 | | 1390 | | 1540 | | 1540 | | 1900 | | 1850 | |
| | Width mm | 650 | | 650 | | 650 | | 680 | | 860 | | 880 | |
| | Height mm | 900 | | 900 | | 900 | | 900 | | 990 | | 1250 | |
| Dry Weight | kg | 503 | | 516 | | 591 | | 564 | | 890 | | 935 | |
| **SOUND LEVEL** | | | | | | | | | | | | | |
| 7m dB(A) 1500/1800rpm*3 | | 58 | 61 | 60 | 63 | 61 | 65 | 60 | 64 | 60 | 63 | 57 | 60 |

*1 Rated Voltage Classification *4

| Frequency | (1) | (2) | | (3) |
|---|---|---|---|---|
| 50Hz | 190 - 220V | 190 - 220V | 380 - 440V | 380 - 440V |
| 60Hz | 200 - 240V | 190 - 240V | 380 - 480V | 380 - 480V |

*2 Fuel consumption is based on operation at 75% load.
*3 Sound level reflects high-speed no-load operation and is calculated by averaging the measurements at four points, each 7 meters from the source.
*4 Depending on location and area,output voltage may differ from values listed in catalog.

DCA-13LSK

DCA-15LSK

DCA-25ESK

DCA-25ESI

DCA-35SPK

DCA-45LSK2 Electronic Governor

# SPECIFICATION TABLE

(50kVA - 150kVA CLASS SOUNDPROOF TYPE)

| | | DCA-60ESI2 | | DCA-75SPI | | DCA-100ESI | | DCA-125SPK3 | | DCA-125ESK | | DCA-150ESK | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ALTERNATOR** | | | | | | | | | | | | | |
| Frequency | Hz | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 |
| Output Rating (kVA) | Continuous | 50 | 60 | 65 | 75 | 80 | 100 | 100 | 125 | 100 | 125 | 125 | 150 |
| | Standby | 55 | 66 | 68.3 | 78.8 | 88 | 110 | 110 | 138 | 110 | 138 | 138 | 165 |
| No. of Phases | | 3-Phase, 4-Wire | | | | | | | | | | | |
| Rated Voltage*1 | | (2) Dual Voltage | | | | | | | | | | | |
| Power Factor | | 0.8 (Lagging) | | | | | | | | | | | |
| Voltage Regulation | % | Within ±0.5 | | | | | | | | | | | |
| Excitation | | Brushless, Rotating Exciter ( With A.V.R.) | | | | | | | | | | | |
| Insulation | | Class H | | Class F | | | | | | | | | |
| **ENGINE** | | | | | | | | | | | | | |
| Maker & Model | | Isuzu BB4BG1T | | Isuzu A-6BG1 | | Isuzu DD-6BG1T | | Komatsu SA6D102E-1-A | | Komatsu SAA6D102E-2-A | | Komatsu SAA6D102E-2-D | |
| Type | | Inlined, Direct Injected, Turbocharged | | Inlined, Direct Injected | | Inlined, Direct Injected, Turbocharged | | Inlined, Direct Injected, Turbocharged, Aftercooled | | | | | |
| Output Rating | PS/rpm | 65.1/1500 | 77.6/1800 | 80/1500 | 93/1800 | 100/1500 | 124/1800 | 133/1500 | 157/1800 | 133/1500 | 157/1800 | 153/1500 | 183/1800 |
| | kW/rpm | 47.9/1500 | 57.1/1800 | 58.8/1500 | 68.4/1800 | 73.6/1500 | 91.3/1800 | 97.8/1500 | 115.5/1800 | 97.8/1500 | 115.5/1800 | 113/1500 | 135/1800 |
| No.of Cylinders-Bore x Stroke | mm | 4-105×125 | | 6-105×125 | | 6-105×125 | | 6-102×120 | | 6-102×120 | | 6-102×120 | |
| Piston Displacement | L | 4.329 | | 6.494 | | 6.494 | | 5.880 | | 5.880 | | 5.880 | |
| Fuel | | ASTM No. 2 Diesel Fuel or Equivalent | | | | | | | | | | | |
| Fuel Consumption*2 | L/h | 8.7 | 11.0 | 10.8 | 12.5 | 13.5 | 17.4 | 15.5 | 20.1 | 16.3 | 21.0 | 20.6 | 25.0 |
| Lube Oil Sump Capacity | L | 13.2 | | 19.3 | | 22.4 | | 22 | | 22 | | 22 | |
| Coolant Capacity | L | 15.4 | | 22.9 | | 22.0 | | 22.7 | | 26.4 | | 28.4 | |
| Battery x Quantity | | 95D31R×1 | | 95E41R×2 | | 95D31R×2 | | 95E41R×2 | | | | | |
| Fuel Tank Capacity | L | 125 | | 155 | | 225 | | 250 | | | | | |
| Engine Emissions | | Stage II (Japanese) | | Stage I (Japanese) | | Stage II (Japanese) | | Stage I (Japanese) | | Stage II (Japanese) | | | |
| **UNIT** | | | | | | | | | | | | | |
| Dimensions | Length mm | 2200 | | 2630 | | 2750 | | 3000 | | 3000 | | 3250 | |
| | Width mm | 880 | | 1000 | | 1050 | | 1080 | | 1080 | | 1080 | |
| | Height mm | 1250 | | 1300 | | 1350 | | 1500 | | 1500 | | 1500 | |
| Dry Weight | kg | 1120 | | 1590 | | 1730 | | 2110 | | 2130 | | 2390 | |
| **SOUND LEVEL** | | | | | | | | | | | | | |
| 7m dB(A) 1500/1800rpm*3 | | 61 | 64 | 61 | 63 | 59 | 61 | 65 | 68 | 60 | 63 | 62 | 65 |

*1 Rated Voltage Classification *4

| Frequency | (2) | |
|---|---|---|
| 50Hz | 190 - 220V | 380 - 440V |
| 60Hz | 190 - 240V | 380 - 480V |

*2 Fuel consumption is based on operation at 75% load.

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

*4 Depending on location and area,output voltage may differ from values listed in catalog.

DCA-60ESI2

DCA-75SPI

DCA-100ESI

DCA-125SPK3

DCA-125ESK

DCA-150ESK

# SPECIFICATION TABLE

(200kVA - 300kVA CLASS SOUNDPROOF TYPE)

| | | DCA-220SPK3 | | DCA-220ESK | | DCA-300SPK3 | | DCA-300ESK | |
|---|---|---|---|---|---|---|---|---|---|
| **ALTERNATOR** | | | | | | | | | |
| Frequency | Hz | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 |
| Output Rating (kVA) | Continuous | 200 | 220 | 200 | 220 | 270 | 300 | 270 | 300 |
| | Standby | 220 | 242 | 220 | 242 | 297 | 330 | 297 | 330 |
| No. of Phases | | 3-Phase, 4-Wire | | | | | | | |
| Rated Voltage*1 | | (2) Dual Voltage | | | | | | | |
| Power Factor | | 0.8 (Lagging) | | | | | | | |
| Voltage Regulation | % | Within ±0.5 | | | | | | | |
| Excitation | | Brushless, Rotating Exciter (With A.V.R.) | | | | | | | |
| Insulation | | Class F | | | | | | | |
| **ENGINE** | | | | | | | | | |
| Maker & Model | | Komatsu S6D125E-2-A | | Komatsu SAA6D125E-2-B | | Komatsu SA6D125E-2-A | | Komatsu SAA6D125E-2-B | |
| Type | | Inlined, Direct Injected, Turbocharged | | Inlined, Direct Injected, Turbocharged, Aftercooled | | | | | |
| Output Rating | PS/rpm | 242/1500 | 277/1800 | 242/1500 | 277/1800 | 316/1500 | 350/1800 | 316/1500 | 350/1800 |
| | kW/rpm | 178/1500 | 204/1800 | 178/1500 | 204/1800 | 232/1500 | 257/1800 | 232/1500 | 257/1800 |
| No.of Cylinders-Bore x Stroke | mm | 6-125×150 | | | | | | | |
| Piston Displacement | L | 11.040 | | | | | | | |
| Fuel | | ASTM No. 2 Diesel Fuel or Equivalent | | | | | | | |
| Fuel Consumption*2 | L/h | 31.5 | 35.7 | 32.9 | 37.7 | 43.6 | 50.0 | 39.0 | 47.0 |
| Lube Oil Sump Capacity | L | 42 | | 42 | | 62 | | 62 | |
| Coolant Capacity | L | 43.3 | | 43.3 | | 44.3 | | 50.8 | |
| Battery x Quantity | | 145G51×2 or 155G51×2 | | | | 145G51×2 or 155G51×2 | | | |
| Fuel Tank Capacity | L | 380 | | | | 490 | | | |
| Engine Emissions | | Stage I (Japanese) | | Stage II (Japanese) | | Stage I (Japanese) | | Stage II (Japanese) | |
| **UNIT** | | | | | | | | | |
| Dimensions | Length mm | 3650 | | 3700 | | 3750 | | 4000 | |
| | Width mm | 1300 | | 1300 | | 1400 | | 1400 | |
| | Height mm | 1750 | | 1750 | | 1800 | | 1800 | |
| Dry Weight | kg | 3680 | | 3790 | | 4170 | | 4360 | |
| **SOUND LEVEL** | | | | | | | | | |
| 7m dB(A) 1500/1800rpm*3 | | 63 | 65 | 65 | 67 | 70 | 73 | 66 | 69 |

*1 Rated Voltage Classification *4

| Frequency | (2) | |
|---|---|---|
| 50Hz | 190 - 220V | 380 - 440V |
| 60Hz | 190 - 240V | 380 - 480V |

*2 Fuel consumption is based on operation at 75% load.
*3 Sound level reflects high-speed no-load operation and is calculated by averaging the measurements at four points, each 7 meters from the source.
*4 Depending on location and area, output voltage may differ from values listed in catalog.

DCA-220SPK3

DCA-220ESK

DCA-300SPK3

DCA-300ESK

# SPECIFICATION TABLE

(350kVA - 500kVA CLASS SOUNDPROOF TYPE)

| | | DCA-400SPKII | | DCA-400ESK | | DCA-500SPK | | DCA-500ESK | |
|---|---|---|---|---|---|---|---|---|---|
| **ALTERNATOR** | | | | | | | | | |
| Frequency | Hz | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 |
| Output Rating (kVA) | Continuous | 350 | 400 | 350 | 400 | 450 | 500 | 450 | 500 |
| | Standby | 385 | 440 | 385 | 440 | 495 | 550 | 495 | 550 |
| No. of Phases | | 3-Phase, 4-Wire | | | | | | | |
| Rated Voltage*1 | | (2) Dual Voltage | | | | | | | |
| Power Factor | | 0.8 (Lagging) | | | | | | | |
| Voltage Regulation | % | Within ±1.0 | | Within ±1.0 | | Within ±0.5 | | Within ±0.5 | |
| Excitation | | Brushless, Rotating Exciter (With A.V.R.) | | | | | | | |
| Insulation | | Class F | | | | | | | |
| **ENGINE** | | | | | | | | | |
| Maker & Model | | Komatsu SA6D140A-1 | | Komatsu SA6D140E-3-A | | Komatsu SA6D170-B-1 | | Komatsu SAA6D140E-3-B | |
| Type | | Inlined, Direct Injected, Turbocharged, Aftercooled | | Common Rail, Inlined, Direct Injected, Turbocharged, Aftercooled | | Inlined, Direct Injected, Turbocharged, Aftercooled | | Common Rail, Inlined, Direct Injected, Turbocharged, Aftercooled | |
| Output Rating | PS/rpm | 421/1500 | 485/1800 | 421/1500 | 485/1800 | 520/1500 | 580/1800 | 520/1500 | 580/1800 |
| | kW/rpm | 310/1500 | 357/1800 | 310/1500 | 357/1800 | 382/1500 | 427/1800 | 382/1500 | 427/1800 |
| No.of Cylinders-Bore x Stroke | mm | 6-140×165 | | | | 6-170×170 | | 6-140×165 | |
| Piston Displacement | L | 15.240 | | | | 23.150 | | 15.240 | |
| Fuel | | ASTM No. 2 Diesel Fuel or Equivalent | | | | | | | |
| Fuel Consumption*2 | L/h | 52.1 | 60.8 | 56.0 | 65.1 | 69.5 | 83.1 | 65.8 | 75.9 |
| Lube Oil Sump Capacity | L | 74 | | 79 | | 119 | | 91.5 | |
| Coolant Capacity | L | 68.4 | | 67.5 | | 92.5 | | 88 | |
| Battery x Quantity | | 190H52×2 or 210H52×2 | | | | | | | |
| Fuel Tank Capacity | L | 490 | | | | | | | |
| Engine Emissions | | Stage I (Japanese) | | Stage II (Japanese) | | Stage I (Japanese) | | Stage II (Japanese) | |
| **UNIT** | | | | | | | | | |
| Dimensions | Length mm | 4200 | | 4200 | | 5480 (5000)*3 | | 5380(4900)*3 | |
| | Width mm | 1400 | | 1400 | | 1650 | | 1650 | |
| | Height mm | 2100 | | 2100 | | 2400 | | 2100 | |
| Dry Weight | kg | 5420 | | 5470 | | 8540 | | 7220 | |
| **SOUND LEVEL** | | | | | | | | | |
| 7m dB(A) 1500/1800rpm*4 | | 67 | 68 | 65 | 67 | 68 | 71 | 66 | 69 |

*1 Rated Voltage Classification *5

| Frequency | (2) | |
|---|---|---|
| 50Hz | 190 - 220V | 380 - 440V |
| 60Hz | 190 - 240V | 380 - 480V |

*2 Fuel consumption is based on operation at 75% load.
*3 Shown unit lengths are with visor. (without visor)
*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.
*5 Depending on location and area, output voltage may differ from values listed in catalog.

DCA-400SPKII

DCA-400ESK Electronic Governor COMMON RAIL

DCA-500SPK

DCA-500ESK Electronic Governor COMMON RAIL

# SPECIFICATION TABLE

(550kVA - 1100kVA CLASS SOUNDPROOF TYPE)

| | | DCA-600SPK | | DCA-610SPM | | DCA-800SPK | | DCA-1100SPK | | DCA-1100SPM2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **ALTERNATOR** | | | | | | | | | | | |
| Frequency | Hz | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 |
| Output Rating (kVA) | Continuous | 550 | 600 | 554 | 610 | 700 | 800 | 1000 | 1100 | 1000 | 1100 |
| | Standby | 605 | 660 | 554 | 610 | 770 | 880 | 1100 | 1210 | 1100 | 1210 |
| No. of Phases | | 3-Phase, 4-Wire | | | | | | | | | |
| Rated Voltage*1 | | (2) Dual Voltage | | | | | | (3) Single Voltage | | | |
| Power Factor | | 0.8 (Lagging) | | | | | | | | | |
| Voltage Regulation | % | Within ±0.5 | | | | | | | | | |
| Excitation | | Brushless, Rotating Exciter (With A.V.R.) | | | | | | | | | |
| Insulation | | Class F | | | | | | | | | |
| **ENGINE** | | | | | | | | | | | |
| Maker & Model | | Komatsu SA6D170-A-1 | | Mitsubishi S6R-PTA | | Komatsu SA12V140 | | Komatsu SAA12V140 | | Mitsubishi S12H-PTA | |
| Type | | Inlined, Direct Injected, Turbocharged, Aftercooled | | | | Direct Injected Turbocharged, Aftercooled | | | | | |
| Output Rating | PS/rpm | 639/1500 | 698/1800 | 703/1500 | 768/1800 | 834/1500 | 1000/1800 | 1171/1500 | 1324/1800 | 1210/1500 | 1292/1800 |
| | kW/rpm | 470/1500 | 513/1800 | 517/1500 | 565/1800 | 613/1500 | 736/1800 | 861/1500 | 974/1800 | 890/1500 | 950/1800 |
| No.of Cylinders-Bore x Stroke | mm | 6-170×170 | | 6-170×180 | | 12-140×165 | | 12-140×165 | | 12-150×175 | |
| Piston Displacement | L | 23.150 | | 24.500 | | 30.480 | | 30.480 | | 37.110 | |
| Fuel | | ASTM No. 2 Diesel Fuel or Equivalent | | | | | | | | | |
| Fuel Consumption*2 | L/h | 81.8 | 93.7 | 82.0 | 96.4 | 102 | 120 | 152 | 169 | 161 | 188 |
| Lube Oil Sump Capacity | L | 119 | | 92 | | 151 | | 207 | | 200 | |
| Coolant Capacity | L | 112 | | 118 | | 170 | | 237 | | 210 | |
| Battery x Quantity | | 190H52×2 or 210H52×2 | | | | 190H52×4 or 210H52×4 | | 145G51×4 or155G51×4 | | 190H52×4 or 210H52×4 | |
| Fuel Tank Capacity | L | 490 | | | | | | 600 | | 800 | |
| Engine Emissions | | – | | | | | | | | | |
| **UNIT** | | | | | | | | | | | |
| Dimensions | Length mm | 5580(5100)*3 | | 5280(4800)*3 | | 6110(5500)*3 | | 6510(5900)*3 | | 6510(5900)*3 | |
| | Width mm | 1650 | | 1650 | | 1950 | | 2200 | | 2200 | |
| | Height mm | 2400 | | 2400 | | 2500 | | 2790 | | 2790 | |
| Dry Weight | kg | 8860 | | 8700 | | 11200 | | 13000 | | 14180 | |
| **SOUND LEVEL** | | | | | | | | | | | |
| 7m dB(A) 1500/1800rpm*4 | | 67 | 71 | 69 | 72 | 70 | 72 | 70 | 74 | 73 | 77 |

*1 Rated Voltage Classification *5

| Frequency | (2) | | (3) |
|---|---|---|---|
| 50Hz | 190 - 220V | 380 - 440V | 380 - 440V |
| 60Hz | 190 - 240V | 380 - 480V | 380 - 480V |

*2 Fuel consumption is based on operation at 75% load.
*3 Shown unit lengths are with visor. (without visor)
*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.
*5 Depending on location and area, output voltage may differ from values listed in catalog.





DCA-600SPK Electronic Governor DCA-610SPM Electronic Governor DCA-800SPK Electronic Governor DCA-1100SPK Electronic Governor DCA-1100SPM2 Electronic Governor

# SPECIFICATION TABLE

(20kVA - 60kVA CLASS **ULTRA SOUNDPROOF TYPE**)

| | | DCA-25USIE | | DCA-45USKE | | DCA-60USIE | | DCA-60USI | |
|---|---|---|---|---|---|---|---|---|---|
| **ALTERNATOR** | | | | | | | | | |
| Frequency | Hz | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 |
| Output Rating (kVA) | Continuous | 20 | 25 | 37 | 45 | 50 | 60 | 50 | 60 |
| | Standby | 22 | 27.5 | 40.7 | 49.5 | 55 | 66 | 55 | 66 |
| No. of Phases | | 3-Phase, 4-Wire | | | | | | | |
| Rated Voltage*1 | | (5) Multi Voltage | | | | | | (2) Dual Voltage | |
| Power Factor | | 0.8 (Lagging) | | | | | | | |
| Voltage Regulation | % | Within ±0.5 | | | | | | | |
| Excitation | | Brushless, Rotating Exciter (With A.V.R.) | | | | | | | |
| Insulation | | Class F | | Class H | | | | | |
| **ENGINE** | | | | | | | | | |
| Maker & Model | | Isuzu BV-4LE2 | | Kubota V3800-DI-T-K3A | | Isuzu BJ-4JJ1X | | Isuzu BB-4BG1T | |
| Type | | Inlined, Direct Injected | | Inlined, Direct Injected, Turbocharged, Cooled EGR | | Common Rail, Inlined, Direct Injected, Turbocharged Aftercooled | | Inlined, Direct Injected, Turbocharged | |
| Output Rating | PS/rpm | 26/1500 | 31.1/1800 | 51.6/1500 | 62.0/1800 | 65.1/1500 | 77.6/1800 | 65/1500 | 77/1800 |
| | kW/rpm | 19.1/1500 | 22.9/1800 | 38.0/1500 | 45.6/1800 | 47.9/1500 | 57.1/1800 | 47.9/1500 | 57.1/1800 |
| No.of Cylinders-Bore x Stroke | mm | 4-85×96 | | 4-100×120 | | 4-95.4×104.9 | | 4-105×125 | |
| Piston Displacement | L | 2.179 | | 3.769 | | 2.999 | | 4.329 | |
| Fuel | | ASTM No. 2 Diesel Fuel or Equivalent | | | | | | | |
| Fuel Consumption*2 | L/h | 3.6 | 4.5 | 6.7 | 8.5 | 8.6 | 10.2 | 8.6 | 10.5 |
| Lube Oil Sump Capacity | L | 8.7 | | 13.2 | | 15.0 | | 13.2 | |
| Coolant Capacity | L | 6.8 | | 9.4 | | 12.9 | | 16.0 | |
| Battery x Quantity | | 80D26×1 | | 115D31R×1 | | | | 120E41R×1 | |
| Fuel Tank Capacity | L | 80 | | 170 | | | | | |
| Engine Emissions | | Stage III (Japanese) | | | | | | Stage II (Japanese) | |
| **UNIT** | | | | | | | | | |
| Dimensions | Length mm | 1570 | | 1990 | | 2350 | | 2200 | |
| | Width mm | 790 | | 950 | | 1000 | | 950 | |
| | Height mm | 1100 | | 1490 | | 1490 | | 1450 | |
| Dry Weight | kg | 710 | | 1160 | | 1370 | | 1310 | |
| **SOUND LEVEL** | | | | | | | | | |
| 7m dB(A) 1500/1800rpm*3 | | 51 | 53 | 50 | 54 | 51 | 56 | 51 | 55 |

*1 Rated Voltage Classification *4

| Frequency | (2) | |
|---|---|---|
| 50Hz | 190 - 220V | 380 - 440V |
| 60Hz | 190 - 240V | 380 - 480V |

*4

| Phase / Frequency | (5) | | |
|---|---|---|---|
| | 3ø | 3ø | 1ø |
| 50Hz | 380-440V | 190-220V | 100/200-115/230V |
| 60Hz | 380-440V | 200-240V | 100/200-125/250V |

*2 Fuel consumption is based on operation at 75% load.

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

*4 Depending on location and area, output voltage may differ from values listed in catalog.

DCA-25USIE ECO BASE TYPE

DCA-45USKE Electronic Governor ECO BASE TYPE

DCA-60USIE Electronic Governor ECO BASE TYPE COMMON RAIL

DCA-60USI

# SPECIFICATION TABLE

(80kVA - 150kVA CLASS **ULTRA SOUNDPROOF TYPE**)

| | | DCA-100USI3 | | DCA-125USI3 | | DCA-150USK3 | |
|---|---|---|---|---|---|---|---|
| **ALTERNATOR** | | | | | | | |
| Frequency | Hz | 50 | 60 | 50 | 60 | 50 | 60 |
| Output Rating (kVA) | Continuous | 80 | 100 | 100 | 125 | 125 | 150 |
| | Standby | 88 | 110 | 110 | 138 | 138 | 165 |
| No. of Phases | | 3-Phase, 4-Wire | | | | | |
| Rated Voltage*1 | | (2) Dual Voltage | | | | | |
| Power Factor | | 0.8 (Lagging) | | | | | |
| Voltage Regulation | % | Within ±0.5 | | | | | |
| Excitation | | Brushless, Rotating Exciter (With A.V.R.) | | | | | |
| Insulation | | Class F | | | | | |
| **ENGINE** | | | | | | | |
| Maker & Model | | Isuzu BI-4HK1X | | | | Komatsu SAA6D107E-1-C | |
| Type | | Common Rail, Inlined, Direct Injected, Turbocharged, Aftercooled | | | | | |
| Output Rating | PS/rpm | 131.2/1500 | 156.1/1800 | 131.2/1500 | 156.1/1800 | 153.6/1500 | 183.6/1800 |
| | kW/rpm | 96.5/1500 | 114.8/1800 | 96.5/1500 | 114.8/1800 | 113/1500 | 135/1800 |
| No.of Cylinders-Bore x Stroke | mm | 4-115×125 | | | | 6-107×124 | |
| Piston Displacement | L | 5.193 | | | | 6.690 | |
| Fuel | | ASTM No. 2 Diesel Fuel or Equivalent | | | | | |
| Fuel Consumption*2 | L/h | 13.6 | 17.4 | 16.7 | 20.8 | 24.0 | 29.6 |
| Lube Oil Sump Capacity | L | 23.0 | | 23.0 | | 24.8 | |
| Coolant Capacity | L | 27.0 | | 27.0 | | 22.0 | |
| Battery x Quantity | | 170F51×1 | | | | 95D31R×2 | |
| Fuel Tank Capacity | L | 225 | | 250 | | | |
| Engine Emissions | | Stage III (Japanese) | | | | | |
| **UNIT** | | | | | | | |
| Dimensions | Length mm | 2900 | | 3050 | | 3150 | |
| | Width mm | 1240 | | 1240 | | 1200 | |
| | Height mm | 1500 | | 1600 | | 1600 | |
| Dry Weight | kg | 2040 | | 2370 | | 2530 | |
| **SOUND LEVEL** | | | | | | | |
| 7m dB(A) 1500/1800rpm*3 | | 53 | 57 | 56 | 60 | 55 | 58 |

*1 Rated Voltage Classification *4

| Frequency | (2) | |
|---|---|---|
| 50Hz | 190 - 220V | 380 - 440V |
| 60Hz | 190 - 240V | 380 - 480V |

*2 Fuel consumption is based on operation at 75% load.
*3 Sound level reflects high-speed no-load operation and is calculated by averaging the measurements at four points, each 7 meters from the source.
*4 Depending on location and area, output voltage may differ from values listed in catalog.


DCA-100USI3 Electronic Governor COMMON RAIL


DCA-125USI3 Electronic Governor COMMON RAIL


DCA-150USK3 Electronic Governor COMMON RAIL

# SPECIFICATION TABLE

## (20kVA - 45kVA CLASS **SOUNDLESS TYPE**)

| | | DCA-25MZ | | DCA-45MZ | |
|---|---|---|---|---|---|
| **ALTERNATOR** | | | | | |
| Frequency | Hz | 50 | 60 | 50 | 60 |
| Output Rating (kVA) | Continuous | 20 | 25 | 37 | 45 |
| | Standby | 21 | 26.3 | 40.7 | 49.5 |
| No. of Phases | | 3-Phase, 4-Wire | | | |
| Rated Voltage*1 | | (5) Multi Voltage | | | |
| Power Factor | | 0.8 (Lagging) | | | |
| Voltage Regulation | % | Within ±0.5 | | | |
| Excitation | | Brushless, Rotating Exciter (With A.V.R.) | | | |
| Insulation | | Class F | | Class H | |
| **ENGINE** | | | | | |
| Maker & Model | | Isuzu BV-4LE2 | | Kubota V3800-DI-T-K3A | |
| Type | | Inlined, Direct Injected | | Direct Injected, Turbocharged, Cooled EGR | |
| Output Rating | PS/rpm | 26/1500 | 31/1800 | 53.3/1500 | 62.7/1800 |
| | kW/rpm | 19.1/1500 | 22.9/1800 | 39.2/1500 | 46.1/1800 |
| No.of Cylinders-Bore x Stroke | mm | 4-85×96 | | 4-100×120 | |
| Piston Displacement | L | 2.179 | | 3.769 | |
| Fuel | | ASTM No. 2 Diesel Fuel or Equivalent | | | |
| Fuel Consumption*2 | L/h | 3.2 | 4.2 | 6.6 | 8.2 |
| Lube Oil Sump Capacity | L | 8.7 | | 13.2 | |
| Coolant Capacity | L | 9.5 | | 12.1 | |
| Battery x Quantity | | 80D26R×1 | | 115D31R×1 | |
| Fuel Tank Capacity | L | 80 | | 170 | |
| Engine Emissions | | Stage III (Japanese) | | | |
| **UNIT** | | | | | |
| Dimensions | Length mm | 1750 | | 2200 | |
| | Width mm | 1000 | | 1200 | |
| | Height mm | 1220 | | 1490 | |
| Dry Weight | kg | 920 | | 1530 | |
| **SOUND LEVEL** | | | | | |
| 7m dB(A) 1500/1800rpm*3 | | 43 | 47 | 44 | 49 |

*1 Rated Voltage Classification *4

| Phase / Frequency | (5) | | |
|---|---|---|---|
| | 3ø | 3ø | 1ø |
| 50Hz | 380-440V | 190-220V | 100/200-115/230V |
| 60Hz | 380-440V | 200-240V | 100/200-125/250V |

*2 Fuel consumption is based on operation at 75% load.
*3 Sound level reflects high-speed no-load operation and is calculated by averaging the measurements at four points, each 7 meters from the source.
*4 Depending on location and area, output voltage may differ from values listed in catalog.

DCA-25MZ ECO BASE TYPE

DCA-45MZ Electronic Governor ECO BASE TYPE

### NOTE 1 OUTPUT RATING

- Continuous output rating applies to operation under standard conditions as per JIS D0006-1*.
- Standby output rating applies to intermittant or emergency operation for approximately 1 hour in every 8 hours of continuous operation as per JIS D0006-1.
- Kilowatts(kW)is calculated by multiplying output kVA by 0.8.

*JIS D0006:Standard air conditions Tenperature 25C Atmospheric pressure 100kPa Relative humidity 30%RH

### NOTE 2 RATED VOLTAGE

- Line to neutral voltage is calculated by dividing line to line voltage by √3.
- Besides the voltages shown on the specification table, other voltages are available upon request.

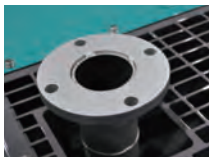
### NOTE 3

Colours of products would be different from printed ones of catalogues.

# Options

## Exhaust gas on upside flange

Connects generator muffler and external piping



## Exhaust gas on side flange

Available to change exhaust gas direction laterally for installation location

## Exhaust tailpipe

Prevents rainwater to muffler part with extended forward muffler

## Ventilation air hood

Available to change ventilation air direction and prevent rainwater to ventilation part

## Ventilate air forward

Available to change ventilation air direction and connect external ducts for installation location


## Automatic Start and Stop Device

Available to start and stop a generator remotely by external signals. Mainly used with the combination of ATS (Automatic transfer switch).


*Terminal board for remote control

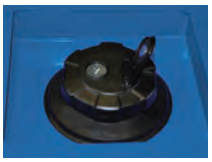
## Three-way valve

**(For DCA-13 to 400, provided as standard feature for DCA-500-1100 and ECO-BASE series.)**

Available to switch to external fuel tank

## Keyed fuel tank cap

**(For DCA-13 to 1100, provided as standard feature for DCA-45USKE,60USIE,45MZ)**



## Trailer

Trailers can be fitted to generators to facilitate on-site movement. Bolt connectors make mounting and dismounting simple.

*Trailer is not designed for driving on the road. Maximum speed 25km/h.

Two-wheel type
(For DCA-60 and below)

Four-wheel type
(For DCA-75SP through 400)

## Salt Corrosion Resistant Specifications

**(For DCA-13 to 220, provided as standard feature for DCA-300 and above.)**

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.

## Automatic Oil Lubrication Device

**(For DCA-35 to 1100, provided as standard feature for 610SPM and 1100SPM2)**

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-25ESI, 45 to 60)**

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.)

## Bearing/stator temperature gauge

**(For DCA-125 and above, provided as standard feature for DCA-800SPK,DCA-1100SP)**

## Lubricant temperature gauge

**(Provided as standard feature for DCA-220 and above)**

## Overspeed protection device

**(Provided as standard feature for DCA-600SPK,DCA-610SPM,DCA-800SPK, DCA-1100SP)**

# 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-125 to 800 |
| Automatic Load Sharing Device | Manual | Manual | Automatic | For DCA-150 to 800 |
| Automatic Parallel Operation Device | Manual | Auto operation with pushbutton | Automatic | For DCA-220 and above. Standard feature for DCA-1100SP |
| Fully Automatic Parallel Operation Device (with EASY GEN) | Semi-automatic Automatic | Automatic | Automatic | For DCA-400ESK, 500ESK and 600SP-1100SP |

## Manual Parallel Operation Device

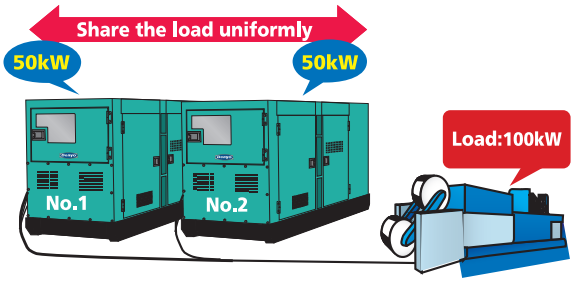
Parallel operation system with unique Denyo AVR equipped with a cross-current compensation circuit (CCR system). This is the most inexpensive system and standard feature for DCA-125 to 800.
For more secure operation in manual parallel mode, we recommend "Reverse power relay " & "AC power meter" as options.

## 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.

## Automatic Load Sharing Device

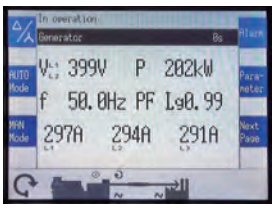
This device operates a governor motor to share the load uniformly among the respective generators when parallel operation is being performed. It facilitates stable parallel operation, and dramatically reduces the workload of monitoring during parallel operation.




## Fully Automatic Parallel Operation Device "EASY GEN"

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.

EASY GEN 3500




## Reverse power relay

**(For DCA-125 and above. Provided as standard feature for DCA-800, DCA-1100SP,Automatic Load Sharing Device, Automatic parallel operation Device and Fully Automatic parallel operation Device.)**

In parallel operation, a reverse power relay will monitor the direction of power for each generator, and when a reverse power set up is exceeded, the breaker is tripped for protection of relevant engine generator. (Recommended for manual parallel operation.)

## AC power meter

**(For DCA-125 and above. Provided as standard feature for DCA-800, DCA-1100SP, Automatic Load Sharing Device, Automatic parallel operation Device and Fully Automatic parallel operation Device.)**

This is an indispensable instrument for monitoring the load sharing and conducting the load transferring in parallel operation. (Recommended for manual parallel operation.)

# 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-13 | | DCA-15 | | DCA-25 | | DCA-35 | | DCA-45 | | DCA-60 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency | Hz | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 |
| EG capacity | kVA | 10.5 | 13 | 12.5 | 15 | 20 | 25 | 30 | 35 | 37 | 45 | 50 | 60 |
| Motor capacity (kW) | Direct startup | 3.4 | 4.1 | 4 | 5 | 6.3 | 7.6 | 9.4 | 11.6 | 12.3 | 14.9 | 16 | 20.5 |
| | Y-△startup(1) | 5.2 | 6.4 | 6 | 7.5 | 9.5 | 11.4 | 14.3 | 17.5 | 18.5 | 22.4 | 24 | 30.8 |
| | Y-△startup(2) | 8.3 | 10.2 | 9.6 | 11.9 | 15.7 | 19.5 | 23.1 | 27.7 | 28.2 | 34.3 | 38.4 | 46 |

| Item \ Model | | DCA-75 | | DCA-100 | | DCA-125 | | DCA-150 | | DCA-220 | | DCA-300 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency | Hz | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 |
| EG capacity | kVA | 65 | 75 | 80 | 100 | 100 | 125 | 125 | 150 | 200 | 220 | 270 | 300 |
| Motor capacity (kW) | Direct startup | 21.5 | 25 | 27.2 | 34.5 | 34.5 | 42.5 | 42.5 | 51 | 68 | 76 | 91 | 102 |
| | Y-△startup(1) | 32.3 | 37.5 | 40.8 | 51.8 | 51.8 | 63.8 | 63.8 | 76.5 | 102 | 114 | 136 | 153 |
| | Y-△startup(2) | 48.8 | 58 | 62 | 68 | 68 | 97 | 97 | 115 | 154 | 172 | 208 | 231 |

| Item \ Model | | DCA-400 | | DCA-500 | | DCA-600/610 | | DCA-800 | | DCA-1100 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency | Hz | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 |
| EG capacity | kVA | 350 | 400 | 450 | 500 | 550/554 | 600/610 | 700 | 800 | 1000 | 1100 |
| Motor capacity (kW) | Direct startup | 119 | 136 | 155 | 175 | 185 | 205 | 210 | 243 | 306 | 337 |
| | Y-△startup(1) | 179 | 204 | 233 | 263 | 278 | 308 | 315 | 365 | 459 | 505 |
| | Y-△startup(2) | 270 | 308 | 351 | 390 | 432 | 460 | 508 | 575 | 734 | 808 |

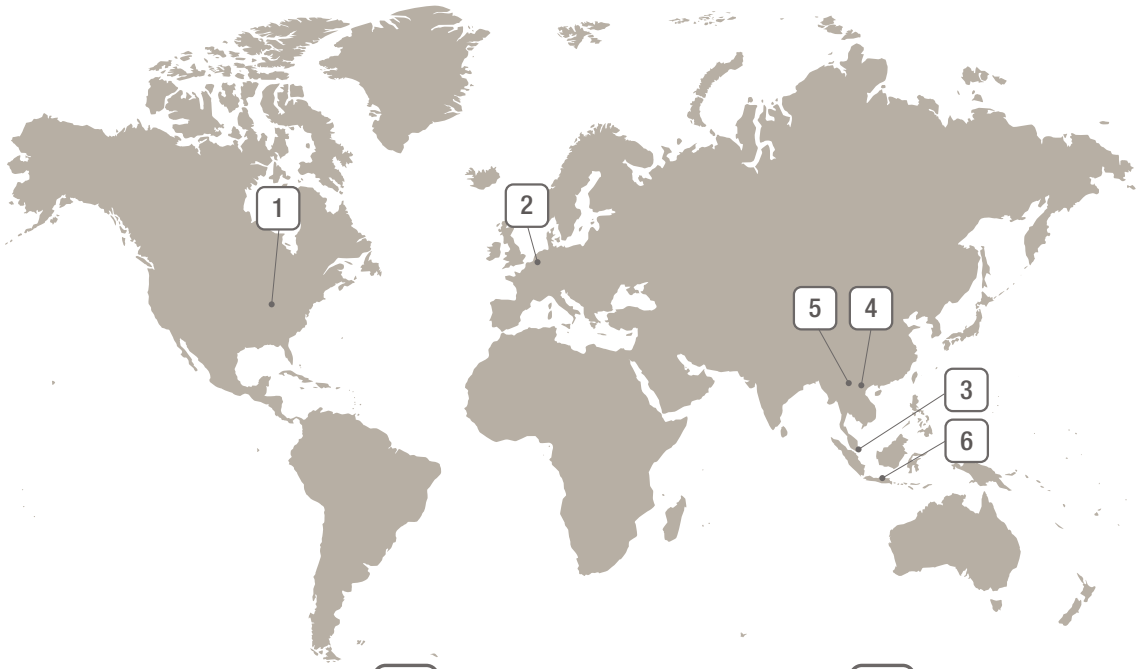
Motor usage examples in the above table are benchmark values : generator capacity will differ according to the required momentary voltage drop, motor load factor, and size of startup capacity, as well as motor age and efficiency

### 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-△startup(1) and Y-△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).

# Our Global Network

Denyo's products are valued by customers around the world and employed in diverse settings. In addition to its locations in Japan, Denyo operates a highly responsive global manufacturing and sales system with three overseas production sites (in Indonesia, the United States, and Vietnam) and four sales and after-sales service sites (in the United States, Singapore, Vietnam and the Netherlands).




1


**Denyo America Corporation**
1450 Minor Road, Danville, Kentucky, 40422 U.S.A.

**Denyo Manufacturing Corporation**
1450 Minor Road, Danville, Kentucky, 40422 U.S.A.

2

**Denyo Europe B.V.**
Naamrijk 1, 3454PX De Meern, The Netherlands

3

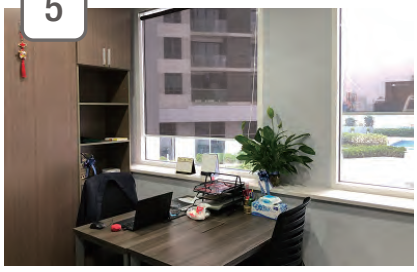
**Denyo Asia Pte. Ltd.**
NO.9 NEYTHAL ROAD SINGAPORE 628614

**Denyo United Machinery Pte. Ltd.**
NO.9 NEYTHAL ROAD SINGAPORE 628614

4

**Denyo Vietnam Co., Ltd.**
Plot A3, Thang Long Industrial Park II, Yen My District,Hung Yen Province, Vietnam

5



**Denyo Trading Vietnam Co., Ltd.**
Room 606.03, 6th Floor, Indochina Plaza Hanoi Tower, No. 241 Xuan Thuy Street, Dich Vong Hau Ward, Cau Giay District, Hanoi City, Vietnam

6


**P.T. Dein Prima Generator**
JL. Raya Bekasi Km. 28, Medan Satria, Bekasi 17132 Jawa Barat, Indonesia


ISO 9001:2015
ISO 14001:2015
Certified



***The specifications given herein are subject to change without notice.***

**Denyo Co., Ltd.**

**Head office:**2-8-5,Nihonbashi-horidomecho,Chuo-ku,Tokyo 103-8566,Japan
Tel:+81-3-6861-0055 Fax:+81-3-6861-1188

***www.denyo.co.jp/english/***

CAT.No.FG04-25-20230720-01 Printed in Japan(SZ)