

Soundless Generator

**Denyo**<sup>®</sup>

M ā l i e

**YR**<sup>®</sup>

D C A - 4 5 M Z

44.8

D C A - 2 5 M Z

43.8



*Astonishingly quiet*

# To the Next of "Ultrasilent"

The sound level of the silent generator Mālie\* is only 43 to 44 dB.

It is said to be as quiet as the sound in a library.

In recent years, consideration for sound and noise has been required, such as in residential areas, hospitals, and near schools.

Denyo has been continuing to challenge the development of quieter generators even by 1 dB.

The silent generator Mālie, which is completed with our original soundproof design technology and many years of expertise, is even quieter than the ultra-low noise type and super ultra-low noise type. Denyo's technology has evolved by one step again.

\* Mālie means quiet and calm in Hawaiian.

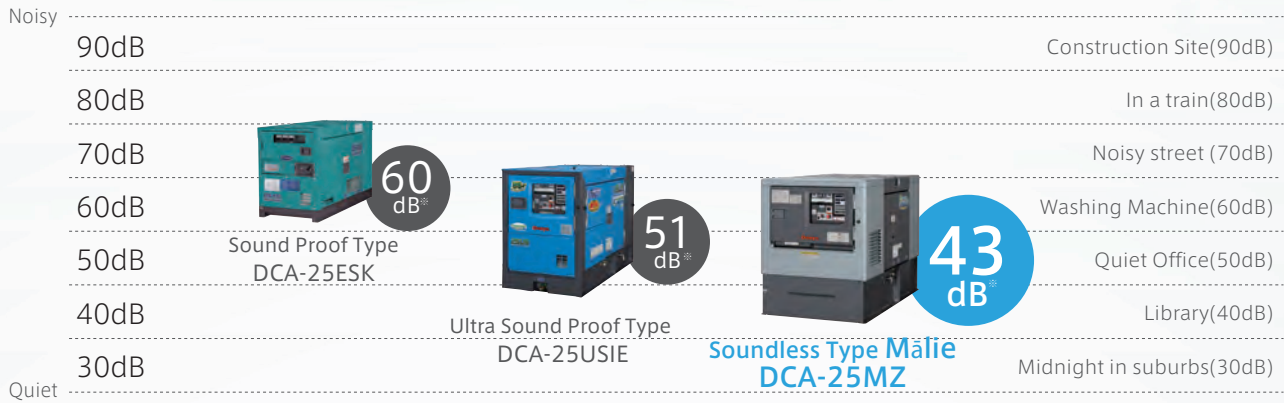


DCA-45MZ

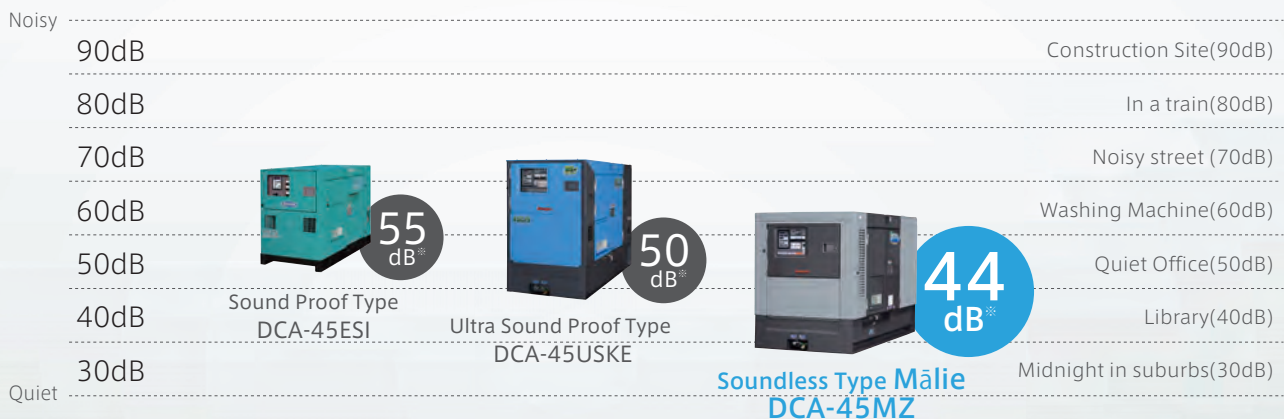
DCA-25MZ

## Astonishingly quiet

[The sound level comparison of 25kVA class]



[The sound level comparison of 45kVA class]



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

## Three Points That Achieved Overwhelming Quietness

### ■ Point1. Reduction of Noise Generated from the Engine

The engine fan, which is the number one cause of the engine noise, has been replaced with two electric fans. In addition, the engine sound is minimized with the installation of a dual pipe muffler (DCA-25MZ) or a muffler one class larger (DCA-45MZ).

### ■ Point2. Reduction of Vibration Generated from the Engine

Vibration generated by the engine is also a major cause of noise. Therefore, the noise from the engine is reduced by reviewing the vibration-proof material and suppressing the vibration from the engine as much as possible with the original structure, such as the vibration-proof support (DCA-25MZ) for the muffle.

### ■ Point3. Structure not to leak noise of the generator to the outside as much as possible

The structure of the hood has been completely reviewed, and the engine is surrounded by a frame and covered with a cover from above to create a double structure that prevents noise generated by the engine generator from leaking out as much as possible.



# 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 better Motor Activation

The transient reactance of our generators is low, and with the introduction of original excitation systems, their motor activation performance is better. 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.

## 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.

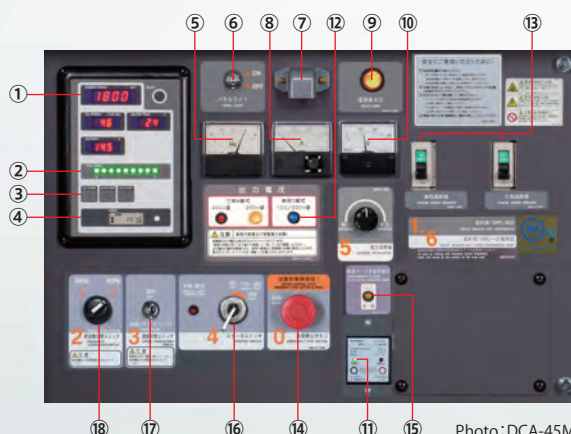


Photo: DCA-45MZ

- 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 **Starter Switch**
- ⑰ **Speed Change Over Switch**
- ⑱ **Frequency Change Over Switch**

## Maintenance

DCA-25MZ is equipped with a sliding door.



The opening area can be widened while reducing the maintenance space.

DCA-45MZ is equipped with a double door.



Since it is a double-sided door, workability during maintenance is outstanding.

The structure makes it easy to clean the radiator.

The front portion of the front panel can be opened and closed widely simply by removing two bolts, making it easy to clean the radiator.



DCA-25MZ

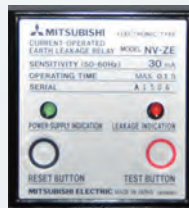


DCA-45MZ

# Safety Device

## Earth Leakage Relay

To prevent electric shock, it is recommended that these generators are equipped with earth leakage relays and circuit breakers.



## Automatic Safety Controls

The generating set shall be equipped with automatic safety controls which shuts down the engine in the event of abnormal conditions mentioned below.

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

Mark ○ ; Operate Mark — ; Not operate

# Eco friendly devices

## ECO-BASE Body

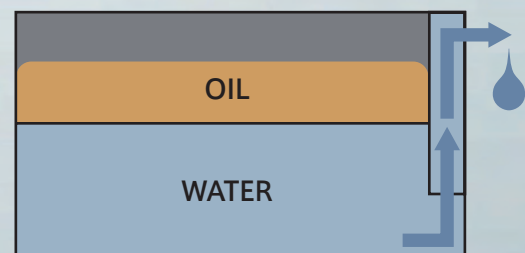
ECO-BASE is a base which has an oil receiver installed inside. You do not need to put an extra tray on the bottom of generator. It is designed to receive fuel, oil and coolant water when they are discharged accidentally.



Eco Base

## Water & Oil Separating Structure

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

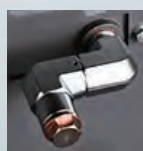


## Easy to Drain

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

## 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 be easily detached by removing all bolts. It is extremely easy to clean and maintain.



## SPECIFICATION TABLE

| MODEL                                     |                      | DCA-25MZ                                 |                      | DCA-45MZ                                     |                      |
|---|----------------------|--|----------------------|--|----------------------|
| AC Generator                              |                      |  |                      |  |                      |
| Frequency                                 | Hz                   | 50                                       | 60                   | 50   | 60                   |
| Output RatingkVA                          | Continuous           | 20                                       | 25                   | 37   | 45                   |
|   | Standby              | 21                                       | 26.3                 | 40.7   | 49.5                 |
| No. of Phases                             |                      | 3-Phase,4-Wire                           |                      |  |                      |
| Rated Voltage V                           |                      | 190-220<br>(380-440)                     | 200-240<br>(380-480) | 190-220<br>(380-440)                         | 200-240<br>(380-480) |
| Power Factor                              |                      | 0.8(Lagging)                             |                      |  |                      |
| Voltage Regulation %                      |                      | Within $\pm 0.5$                         |                      |  |                      |
| Excitation                                |                      | Brushless ,rotating exciter (With A.V.R) |                      |  |                      |
| Isulation                                 |                      | Class F                                  |                      | Class H                                      |                      |
| Engine                                    |                      |  |                      |  |                      |
| Model                                     |                      | Isuzu<br>BV-4LE2                         |                      | Kubota<br>V3800-DI-T-K3A                     |                      |
| Type                                      |                      | Inlined,<br>Direct Injected              |                      | Direct Injected,<br>Turbocharged, cooled EGR |                      |
| Output Rating                             | Ps/rpm               | 26/1500                                  | 31/1800              | 53.3/1500                                    | 62.7/1800            |
|   | kW/min <sup>-1</sup> | 19.1/1500                                | 22.9/1800            | 39.2/1500                                    | 46.1/1800            |
| No.of Cylinders-Bore×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* <sup>2</sup> 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×Quantity                          |                      | 80D26R×1                                 |                      | 115D31R×1                                    |                      |
| Fuel Tank Capacity L                      |                      | 80                                       |                      | 170  |                      |
| UNIT                                      |                      |  |                      |  |                      |
| Dimensions                                | Length mm            | 1750                                     |                      | 2200   |                      |
|   | Width mm             | 1000                                     |                      | 1200   |                      |
|   | Height mm            | 1220                                     |                      | 1490   |                      |
| Dry Weight kg                             |                      | 920                                      |                      | 1530   |                      |
| Sound Power Level                         |                      |  |                      |  |                      |
| 7m dB(A) 1500/1800rpm(min-1) <sup>3</sup> |                      | 43                                       | 47                   | 44   | 49                   |

\*1 Depending on location and area,output voltage may differ from values listed in catalog.

( ) indicates option

\*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.



ISO 9001:2015 Certified  
ISO 14001:2015

**Denyo**

The Denyo trademark is widely recognized as a brand, and is a registered trademark in 93 countries and 8 regions.

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**YR** Youngman  
Richardson