



Denyo

DENYO SOUNDPROOF TYPE

DIESEL ENGINE WELDER



DLW Series



DAW/TLW Series

Denyo Co., Ltd.





DLW SERIES

The improved diesel engine welder achieves low fuel consumption and low noise in newly developed e-mode operations. High-quality AC power can be used while welding is being performed.

Welding Mode Selector Switch is equipped:

DENYO's DLW series welders are equipped with Welding Mode Selector Switch which enables the welding workers to change the working mode between the drooping characteristics mode and the constant current characteristic mode.



3 Position control of engine rotation (e-mode) is equipped:

(for DLW-300LS)
DLW-300LS is able to control in a non-step fashion the number of rotations in compliance with the load to be applied and a lower noise level and lower fuel consumption are attained with an excellent job performance.



Constant current characteristic mode
Even when the arc length becomes long and thus the voltage rises, the current remains same.



Drooping characteristic mode
When the arc length becomes long and thus the voltage rises, the current decreases.



Narrow Body
Width 560mm!

DLW-300LS

Voltage reducing device is equipped:

DENYO's engine-driven welding machines is capable to reduce the welding open circuit voltage down to 15V for non-working conditions and thus it is possible to prevent electric shocks of welding workers even at a place of a high altitude and a high humidity.



Duty Cycle 100% is realized:

Denyo's welding machines realized duty cycle 100% by adopting high-performance generators and allowance-rich engines.

Worker may select the optimum mode or e-mode from the 3 positions of control. This realizes a lower consumption of fuel.



Variable /Low Speed Mode

When the welding work starts, the rotation of equipped engine works under non-step and variable rotation manner and the welding machine works at high speed mode when it is connected to alternate current (AC) power and works at low speed mode when it is under no load of current.

High/Low Speed Mode

When the welding work is performed by the machine or the welder is connected to alternate current (AC) power, the machine works at high speed mode, and when the machine is under no load of current, it works at low speed mode.

High Speed Mode

The welder works at high speed mode regardless non-load conditions or loaded conditions.

Two persons can perform welding simultaneously in e-mode operations. Provided with short-circuit current regulator.



DLW-300LSW

Welding work can be performed under a low-speed condition of the engine: (for DLW-300LSW and DLW-400ESW)

Full Range Mode

When welding work starts or the equipped AC generator starts to operate, the welding machine works at high speed mode and when the unloaded condition of current is applied, the machine operates at low speed mode.

e-mode

When welding work is performed steadily, the machine becomes low speed mode. When the alternate current generator becomes in operation, the machine operates at high speed mode and the generator becomes in an unloaded condition, the machine comes back to low speed mode.



DLW-400ESW

Short-circuit current during welding work can be adjusted:

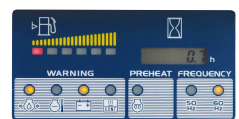
The conditions of welding work can be freely adjusted from "Hard" to "Soft" at the discretion of a welding worker by Arc Force Regulator. When "Soft" is selected, the current for welding work becomes stable and welding of pipes and upward welding become easier to do. On the other hand, when "Hard" is selected, start of arc becomes much smoother.



Superior Design

(for DLW-300LSW and DLW-400ESW)

Fuel gauge will indicate with red signal when level is low, and readability have been enhanced in other gauges and meters, such as Hour Meter, Frequency lamp, etc.



DAW/TLW SERIES



DAW-180SS

Lightweight and compact design with water-cooled 2-cylinder diesel engine.



eAVC300

DAW-300LS

Non-step automatic control with a microcomputer assures optimum engine revolutions under any load conditions, with slow-down (low-speed) revolutions kept under no load. The fuel cost can thus be reduced, ultra-low fuel consumption achieved, and ultralow noise level maintained under any working conditions.

The best arc-welding characteristics

The e-AVC300's microcomputer-aided welding control assures quiet, optimum operation that will accommodate any kind of welding rod.



TLW-230LS

Lightweight and compact design with water-cooled 2-cylinder diesel engine.

All the products listed in this brochure are provided with the following functions.

Clean Engine

The engine equipped with the Closed Breathing System which keeps the blow-by gas in the machine, and the aluminum radiator which does not cause lead pollution is categorized as a construction machine that satisfies the emission gas regulation stage 3 (DAW-300LS/DLW-300LS/DLW-300LSW/TLW-230LS), stage 2 (DLW-400ESW), enforced by the Ministry of Land, Infrastructure and Transport (except for DAW-180SS)

Slowdown device reduces noises and saves

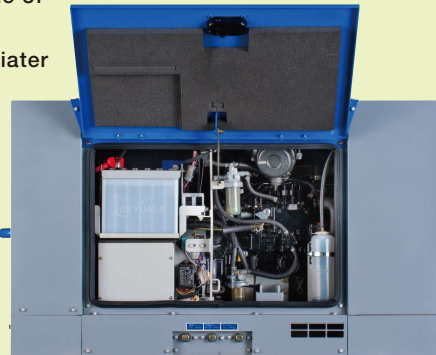
The Slowdown unit automatically lowers engine speed during no-load, reducing noise and increasing fuel efficiency.



Easy Daily Inspection & Maintenance

Daily inspection and maintenance can be carried out one side of the machine.

In addition, the radiator can be cleaned easily by removing the front cover.



Switch key operation restarts the engine with air vented automatically

The machine is equipped with an automatic airventing unit that eliminates air by turning a switch key when restarting the engine after fueling.

Alternator requires maintenance free

The use of brushes or slip rings in the alternator eliminates the need for maintenance.

Various protective systems assuring safety

- This machine can automatically cut the power off when over-loading DC output. (except for TLW-230LS)
- Protect over-loading AC output by shutting down its circuit breaker.
- Automatically stop the engine with the warning indicators, at low lub oil pressure, high water temperature, and insufficient charging of the battery.
- Prevent from electrical leaking with its relay. (optional for all the products)

Options:

Four-wheel kit (except for DAW-180SS), exhaust pipe attachment, remote controller, measures against salt damage.



remote controller



Four-wheel kit

SPECIFICATION TABLE

Item \ Model	DAW-180SS	DAW-300LS	TLW-230LS	DLW-300LS	DLW-300LSW	e-mode	DLW-400ESW	e-mode
DC Welding Power								
Rated Output (kW)	4.5	8.7	5.6	7.90/8.74	Single 7.90/8.74 Dual 3.28×2/3.58×2	4.22 1.86×2	Single 10.96/11.90 Dual 4.39×2/4.73×2	7.10 2.98×2
Rated Current (A)	170	280	200	260/280	Single 260/280 Dual 130/140	160 80	Single 330/350 Dual 165/175	240 120
Rated Voltage (V)	26.8	31.2	28	30.4/31.2	Single 30.4/31.2 Dual 25.2/25.6	26.4 23.2	Single 33.2/34.0 Dual 26.6/27.0	29.6 24.8
Welding Current Range (A)	30~180	30~300(2200~3000min ⁻¹)	50~230	30~280/30~300	Single 60~280/60~300 Dual 30~140/30~150	60~160 30~80	Single 60~380/60~400 Dual 30~190/30~200	60~240 30~120
Rated duty cycle (%)	50			100	50	100	60	100
Applicable electrode (mm)	2.0~4.0	2.0~6.0	2.6~5.0	2.0~6.0	Single 2.6~6.0 Dual 2.0~3.2	2.0~4.0 2.0~2.6	Single 2.0~8.0 Dual 2.0~4.0	2.0~5.0 2.0~3.2

AC Power Source

Frequency (Hz)	50/60						
Rated Output (kVA)	3.0		5.0/5.5		10.0		15.0
Rated Voltage (V)	100/110/120/200/220/230/240				200/220/230/240 or 380~440		
No. of Phase	1-Phase, 2wire				3-Phase, 4wire		
Power Factor	1.0				0.8 (Lagging)		

Diesel Engine

Model	Kubota Z402	Kubota D722-K3A	Kubota Z482-K3A	Yanmar 3-3TNM68G	Kubota D905-K3A	Kubota D1005-KA		
Type	4-cycle, vertical, water cooled with radiator							
Rated Output (kW)	7.28	11.7	9.6	12.5/15.0	14.7/17.3	16.5/19.1		
Rated Speed (min ⁻¹)	3600	3000	3600	3000/3600				
Displacement (L)	0.4	0.719	0.479	0.784	0.898	1.001		
Fuel	ASTM No.2 diesel fuel or equivalent							
Fuel consumption (L/h) ※1	1.31	2.1	1.6	1.96/2.34	2.33/2.69	1.46	3.24/3.76	2.18
Fuel Tank Capacity (L)	15	19		36			42	
Battery x Quantity	36B20L×1	55B24L×1	36B20L×1	55B24L×1				

Dimensions/Weight

Length×Width×Height (mm)	990×590×750	1270×680×740	1220×610×720	1410×560×770	1410×680×770	1520×720×770
Dry Weight (kg)	181	300	285	379	405	460

Noise

7mdB (A) ※2	65	64	60/63	63/65	64/67	58	63/66	59
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※1 The fuel consumptions herein are measured under the condition that welding load is a rated value and the duty cycle is fixed at 50%.

※2 The noise levels herein stated are the averaged value of the measured values of four directions of 7 meters length under non-loaded condition.

* When a welding machine and a generator are used simultaneously, please use them according to the instructions stipulated in the Operation Manual.



The specifications, appearance and/or coloring of the products may be subject to change without notice.
 Due to printing conditions of this brochure, coloring of the products may not be same as printed herein.
 Storage, transportation and usage of the products shall, at any time, be carried out in accordance with the Operation Manual.

Direct inquiries to the nearest Denyo distributor or to Denyo co.,Ltd.

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