

## DIESEL ENGINE-DRIVEN DC WELDER/AC GENERATOR SOUND PROOF TYPE

# **DLW SERIES** **DAW/TLW SERIES**

Superior Arc Performance with  
Unparalleled Stability in Generator Output.



# 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.

Two people can perform welding simultaneously.



## DLW-300LS



## DLW-300LSW2



## DLW-400LSW



### Welding Mode Selector Switch

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.



**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.

### Arc Force Regulator

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.



### Voltage Reducing Function is equipped

DENYO's engine-driven welders are 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 welders realized duty cycle 100% by adopting high-performance generators and allowance-rich engines.

### Variable Engine Speed Control Device "e-mode"

DLW-Series are 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.

Operator 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 of non-load conditions or loaded conditions.

### Constant protection against welding output short-circuits

Constant protection against welding output short-circuits is a function that significantly reduces the current supplied to a short-circuit between the welding rod and the base metal for a certain time after a failed arc start in order to prevent the welding rod from sticking (a function that allows easy removal of the welding rod).

This function demonstrates its value with unskilled operators and welding in small spaces.



## Explanation of a mark



The maximum welding current and the maximum application welding rod at the time of single welding.



The maximum welding current and The maximum application welding rod of welding for two people.



AC power output 1- Phase  
100/110/120/200/220/230/240V



AC power output 3- Phase  
200/220/230/240 or 380 - 440V



Single or two people usage can be chosen with selector switch.



IGBT chopper control system with Welding mode selector switch or Arc Force Regulator.



Thyristor electronic control and arc drive control.



AC Power can be used while welding is being performed.



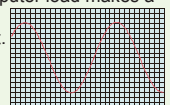
AVR, inverter load, thyristor load and computer load makes a quality exchange power supply with little waveform distortion to an electronic circuit.



Waveform correction circuit is included in the circuit of an inverter system and a quality exchange power supply with little waveform distortion can be supplied.



Dry Weight





# DAW/TLW SERIES

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



## DAW-180SS



## 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



**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-300LSW2/DLW-400LSW/TLW-230LS), enforced by the Ministry of Land, Infrastructure, Transport and Tourism. (except for DAW-180SS)

### IDLE CONTROL reduces noises and fuel cost

The Idle Control unit automatically lowers engine speed during no-load, reducing noise and increasing fuel efficiency. (DAW-180SS, TLW-230LS)



### 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

- DAW/DLW Series Welders 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 lubrication oil pressure, high water temperature, and insufficient charging of the battery.

### Options:

- Remote controller
- Four-wheel kit(except for DAW-180SS)
- Exhaust pipe attachment,
- Measures against salt damage
- Earth Leakage Relay



Remote controller



Earth Leakage Relay



Four-wheel kit

## SPECIFICATION TABLE

Item \ Model	DAW-180SS	DAW-300LS	TLW-230LS	DLW-300LS	DLW-300LSW2	DLW-400LSW
<b>DC Welding Power</b>						
Rated Output (kW)	4.5	8.7	5.6	7.90/8.74	Single 7.90/8.74 Dual 3.28x2/3.58x2	Single 12.9/13.9 Dual 5.07x2/5.42x2
Rated Current (A)	170	280	200	260/280	Single 260/280 Dual 130/140	Single 370/390 Dual 185/195
Rated Voltage (V)	26.8	31.2	28	30.4/31.2	Single 30.4/31.2 Dual 25.2/25.6	Single 34.8/35.6 Dual 27.4/27.8
Welding Current Range (A)	30 - 180	30 - 300 (2200 - 3000min <sup>-1</sup> )	50 - 230	30 - 280/30 - 300	Single 60 - 280/60 - 300 Dual 30 - 150/30 - 160	Single 60 - 380/60 - 400 Dual 30 - 190/30 - 200
Rated duty cycle (%)	50			100		
Applicable electrode (mm)	2.0 - 4.0	2.0 - 6.0	2.6 - 5.0	2.0 - 6.0	Single 2.0 - 6.0 Dual 2.0 - 3.2	Single 2.0 - 8.0 Dual 2.0 - 4.0

### AC Power Source

Frequency (Hz)	50/60			
Rated Output (kVA)	3.0	5.0/5.5	10.4/11.4	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 D902-K3A	Kubota D1105-K3B
Type	4-cycle, vertical, water cooled with radiator					
Rated Output (kW)	7.28	11.7	9.6	12.5/15.0	14.9/17.8	17.8/20.7
Rated Speed (rpm)	3600	3000	3600	3000/3600		
Displacement (L)	0.4	0.719	0.479	0.784	0.898	1.123
Fuel	ASTM No.2 diesel fuel or equivalent					
Fuel consumption <sup>1</sup> (L/h)	1.31	2.1	1.6	1.96/2.34	2.14/2.49	3.14/3.69
Fuel Tank Capacity (L)	15	19		36		42
Battery x Quantity	36B20Lx1	55B24Lx1	36B20Lx1	55B24Lx1		

### Dimensions/Weight

LengthxWidthxHeight (mm)	990x590x750	1270x680x740	1220x610x720	1410x560x770	1410x560x770	1520x700x770
Dry Weight (kg)	181	300	285	379	375	471

### Noise

7mdB (A) <sup>2</sup>	65	64	60/63	63/65	66/68	64/67
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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.



ISO 9001:2008  
ISO 14001:2004 Certified

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.

**Denyo®**

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