



ENGINE DRIVEN WELDER DSP 2X400 YS-5

The images are for reference

WELDING PROCESS



Shielded Metal Arc welding SMAW (STICK)



Gas Tungsten Arc Welding GTAW (TIG)



Gas Metal Arc Welding GMAW (MIG)



Flux Cored Arc Welding FCAW (FLUX CORED)



FEATURES

- High frequency digital control of welding current and voltage
- Two independent welding stations, each 400A
- Specific welding programs for cellulose electrodes
- Digital welding ammeter and voltmeter
- Pre-setting of the welding current
- VRD function
- Three-phase and single-phase AC current generator available during the welding phase
- Electronic differential relay adjustable in current and intervention time
- Insulation monitor (as an alternative to the electronic differential relay)
- Stage 5 compliant engine with electronic regulation of engine speed
- Automatically inserted dummy load (resistive). Prevents clogging of the DPF for prolonged use of the engine with low loads.
- Digital engine management and control module
- Emergency button
- Liquid-tight base
- Central lifting hook
- Large capacity steel tank
- External filling of the fuel tank
- Low noise emission level

DEFINITION

Valid declared powers up to the followings environmental conditions: temperature 25°C, altitude 100 meters above sea level

LTP power: stand-by power: Maximum available power for use with variable loads for a yearly number of hours limited at 500 h. No overload is admitted.

PRP power: continue power with variable loads. Maximum power for use with variable loads for a yearly illimited nubers of hours.

COP power: continuous power with constant load. Maximum power for use with constant loads for a yearly unlimited numbers of hours.



water cooled



diesel



electric starter

ENGINE 1500 RPM

4 STROKE, DIRECT INJECTION, TURBOCHARGED

Model	YANMAR 4TNV98CT
* Stand-By net power	43,2 kW (58,6 hp)
* PRP net power	39,1 kW (53,5 hp)
* COP net power	/
Cylinders / Displacement	4 / 3,319 lit. (3319 cm ³)
Bore / Stroke	98 / 110 (mm)
Compression ratio	17,9 : 1
BMEP (Brake Mean Effective Pressure : LTP - PRP)	/
Speed governor type	Mechanical
FUEL CONSUMPTION	
110 % (Stand-by power)	11 lit./h
100 % to PRP	9,9 lit./h
75 % to PRP	7,2 lit./h
50 % to PRP	4,6 lit./h
COOLING SYSTEM	
Total system cap. - only engine	8,5 lit. - 4,5 lit.
Fan air flow	65 m ³ /min.
LUBRICATION SYSTEM	
Total oil system capacity	10,5 lit.
Oil capacity in sump	4,5 lit.
Oil consumption at full load	/

EXHAUST SYSTEM

Maximum exhaust gas flow	10,5 m ³ /min.
Max. exhaust gas temp.	510 °C
Maximum back pressure	5,1- 11,5 kPa (51- 115 mbar)
External diameter exhaust pipe	/

ELECTRICAL SYSTEM

Starter motor power	2,3 kW
Battery charging alternator cap.	40 A
Cold start	- 15 °C
With cold start aid	/

AIR FILTER

Combustion air flow	3.24 m ³ /min
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HEAT REJECTED AT FULL LOAD

To exhaust system	/
To water and oil	/
Radiated to room	/
To charge cooler	/

* Output powers according to ISO 3046-1



WELDING AND GENERATION

C.C. WELDING

SMAW (STICK)/ GTAW (TIG) CC MODE	
Current range	2x400A / 36V
Type of regulation	continues on 2 scales 2x20A/20,8V - 200A/28V 2x20A/20,8V - 400A/36V
Duty cycle	2x400A/36V @ 35% 2x360A/34.5V @ 60% 2x330A/33,2V @ 100%
Open circuit voltage	68 Vcc / Vdc
Reduced no-load voltage with VRD	< 13 Vcc / Vdc
Arc Force Regulation	Yes

SMAW (STICK)/ GTAW (TIG) CC MODE	
Current range	2x400A / 26V
Type of regulation	continues on 2 scales 2x20A/10,8V - 200A/18V 2x20A/10,8V - 400A/26V
Duty cycle	2x400A/26V @ 35% 2x360A/24.5V @ 60% 2x330A/23,2V @ 100%
Open circuit voltage	68 Vcc / Vdc
Reduced no-load voltage with VRD	< 13 Vcc / Vdc
Arc Force Regulation	No

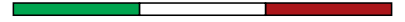
C.V. WELDING

GMAW (MIG)/ FCAW (FLUX CORED) CV MODE	
Welding voltage	2x400A / 34V
Type of regulation	continue 16V ÷ 36V
Duty cycle	2x360A/32V @ 60% 2x330A/30.5V @ 100%

SIMULTANEOUS LOAD CHARACTERISTIC

WELDING CURRENT SINGLE POSITION	400A	300A	200A	100A	0
THREE PHASE POWER 400V $\cos\phi$ 0.8	25 kVA	30 kVA	35 kVA	40 kVA	40 kVA
SINGLE PHASE POWER 230V $\cos\phi$ 0.8	20 kVA	20 kVA	20 kVA	20 kVA	20 kVA
THREE PHASE POWER 400V $\cos\phi$ 1	20 kW	24 kW	28 kW	32 kW	32 kW
SINGLE PHASE POWER 230V $\cos\phi$ 1	20 kW	20 kW	20 kW	20 kW	20 kW

WELDING CURRENT DOUBLE POSITION	2x400A	2x300A	2x200A	2x100A	0
THREE PHASE POWER 400V $\cos\phi$ 0.8	10 kVA	20 kVA	30 kVA	40 kVA	40 kVA
SINGLE PHASE POWER 230V $\cos\phi$ 0.8	8 kVA	16 kVA	20 kVA	20 kVA	20 kVA
THREE PHASE POWER 400V $\cos\phi$ 1	8 kW	16 kW	24 kW	32 kW	32 kW
SINGLE PHASE POWER 230V $\cos\phi$ 1	8 kW	16 kW	20 kW	20 kW	20 kW



AUXILIARY GENERATION

OUTPUT 1	
Type of source	Three-Phase
Frequency	50 Hz
Apparent Power (Active Power)	40 kVA (30kW)
Cos φ	0.8
Voltage	400 V
Current	57.8 A

OUTPUT 2	
Type of source	Single-Phase
Frequency	50 Hz
Apparent Power (Active Power)	20kVA/kW
Cos φ	0.8 ÷ 1
Voltage	230 V
Current	87 A

OUTPUT 3	
Type of source	Single-Phase
Frequency	50 Hz
Apparent Power (Active Power)	10 kVA (8kW)
Cos φ	0.8 ÷ 1
Voltage	110 V
Current	90.9 A

OUTPUT 4	
Type of source	Single-Phase
Frequency	50 Hz
Apparent Power (Active Power)	5 kVA/kW
Cos φ	1
Voltage	48 V
Current	104 A

A.C. GENERATION

ASYNCHRONOUS ALTERNATOR, SELF-REGULATED, SELF-EXCITED, BRUSHLESS

Insulation class	H
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GENERAL SPECIFICATIONS

Fuel tank capacity	102 l
Fuel consumption (welding 60%)	12 Vdc -80Ah - 700A CCA
Running time (welding 60%)	19,5 h

IP protection degree	IP 44
Pressure acoustic power	64 dB(A) @ 7m
Guaranteed acoustic power	91 dB(A)

CONTROL PANEL

WELDING

- WDC control panel
 - Rotary switch for welding process
 - STAND-BY
 - TIG CONTACT STARTING ((GTAW - Lift Start)
 - CC STICK ARC FORCE (SMAW)
 - CC STICK CELLULOSE 1 (SMAW)
 - CC STICK CELLULOSE 2 (SMAW)
 - CV-WIRE (GMAW / FCAW)
 - Welding current / voltage adjusting knob
 - Connection of remote control with automatic "local / remote" switch at the insertion of the plug.
 - Welding range switch
 - Polarity reverse switch
 - LED STAND-BY
 - LED ON (Welder ready for use)
 - Thermal protection or fault LED (if on it indicates over-current or fault)
 - Polarity reverse LED (signals command activation)
- Welding current and voltage digital instruments PCB / LED V.R.D.
- Welding output sockets:
 - 1 x Saldatura (+) 400A
 - 1 x Saldatura (-) 400A



GENERATION (VERS. 400V / 230V / 48V)

- Magneto-thermal switch
- Electronic differential relay
- Output sockets: 2x 400V 32A 3P+N+T CEE IP67
 - 1x 230V 32A 2P+T CEE IP67
 - 4x 230V 16A 2P+T CEE IP67
 - 2x 48V 32A 2P CEE IP44
- No. 2 output terminals 200A (for 48V)
- Differential-magnetothermal switch for 400V 32A socket (No. 2)
- Differential-magnetothermal switch for 230V 32A socket
- Switch differential-magnetothermic for 230V 16A socket (N°4)
- Magneto-thermal switch – Output 48Vac
- Earth terminal (PE)

GENERATION (VERS. 400V / 230V)

- Magneto-thermal switch
- Electronic differential relay
- Output sockets: 2x 400V 32A 3P+N+T CEE IP67
 - 1x 230V 32A 2P+T CEE IP67
 - 3x 230V 16A 2P+T CEE IP67
 - 3x 230V 16A 2P+T SCHUKO IP67
- Differential-magnetic circuit breaker for 400V 32A socket (N°2)
- Differential-magnetic circuit breaker for 230V 32A socket
- Differential-magnetic circuit breaker for 230V 16A socket (N°6)
- Earth terminal (PE)

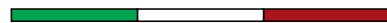
CONTROL PANEL

DIGITAL CONTROL PANEL

INTELLITE4 AMF9 CONTROLLER CHARACTERISTICS	
Operating mode	<ul style="list-style-type: none"> OFF - MAN. - AUTO - TEST
Display - Buttons-LEDs	<ul style="list-style-type: none"> Backlit display, LCD 132x64 pixels Buttons / Buttons: START - STOP - RESET ALARMS / FAULT RESET LEDs: Generator / GCB ON status - Grid status
Generator Measures	<ul style="list-style-type: none"> Voltage : L1-L2 / L2-L3 / L3-L1 - N-L1/N-L2/N-L3 Current : I1 - I2 - I3 Frequency Hz Powers : kVA - kW - KVAR (totali e per fase) Energy : kVAh - kWh - kVARh Cos φ (medium and per phase)
Engine Measures	<ul style="list-style-type: none"> Water temperature Oil pressure Fuel level Rpm meter Battery voltage Maintance Hours meter Starts number
Generator Protections	<ul style="list-style-type: none"> Overload Overcurrent Short circuit Over-Under voltage Over-Under frequency Voltage asymmetry Unbalanced current Phase sequence
Engine Protections	<ul style="list-style-type: none"> Overspeed High water temperature warning Low oil pressure warning Low fuel level warning Over-Under battery voltage Battery charge alternator failure Start failure Stop failure Emergency stop Low water level shutdown (option)
AMF functins (Automatic control panel only)	<ul style="list-style-type: none"> Measure mains voltage : L1-L2 / L2-L3 / L3-L1 - N-L1/N-L2/N-L3 Measure mains frequency Three phase detection Over-Under mains voltage Over-Under mains frequency Voltage asymmetry Phase sequence Dual mutual stand-by application
Features	<ul style="list-style-type: none"> Event history, 150 stored events 3 programmable test timers Programming from panel or from PC 3 selectable languages (other languages available) Direct connection to engines with ECU (Stage V, Tier 4 Final) via Can Bus J1939 External Start and Stop Programmable inputs and outputs Alternative configurations (50 / 60Hz) IP 65 protection Operating temperature: -20 ° C - + 70 ° C



Communication	
	<ul style="list-style-type: none"> USB port RS232- RS485 (optional) Modbus RTU / TCP (optional) Internet connection with Ethernet (optional) Online control and monitoring on web pages (embedded web server) (optional) GPS / 4G modem (optional) (geographical tracking via WebSupervisor) Internal PLC support



WEIGHT - DIMENSIONS ACCESSORIES

DSP 2X400 YS-5

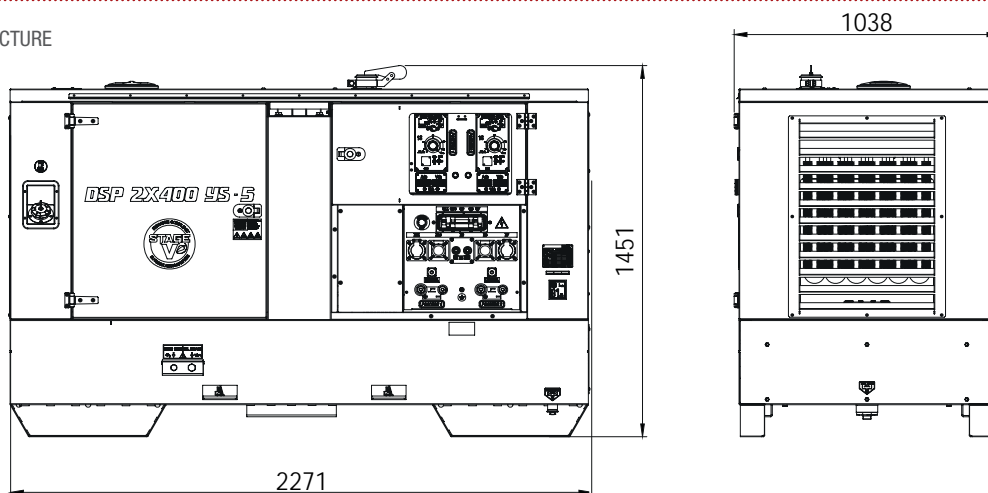


DRY WEIGHT:
• 1245 Kg

The welding machine pictured may include optional accessories.



DIMENSION PICTURE



VERSIONS IN ADDITION TO THE STANDARD FEATURES

Reverse polarity
Insulation monitor

	POL	ISO
Reverse polarity	✓	
Insulation monitor		✓

OPTIONS ON REQUEST

- RC2 remote control
- RC1 remote control (POL vers.)
- Remote control extension cable
- Welding cables K500 (20+15 m, 50 mm²)
- WF4 wire feeder
- Welding kit (mask, goggles, etc.)
- Earthing
- TCM35 remote control
- CTL 45 slow towing trolley
- CTLR 45 slow towing trolley (adjustable height)

AVAILABLE VERSIONS

400V / 230V / 48V

C1HT9063PV STANDARD
C1HT9064PV POL

400V / 230V

C1HT9013PV STANDARD
C1HT9014PV POL
C1HT9013PTV ISO

GENERAL INFORMATION

COMPLIANCE GENERATING SETS WITH EC DIRECTIVES AND STANDARDS

2006/42 / EC (Machinery Directive)
2014/35 / UE (Low Voltage Directive)
2014/30 / UE (Electromagnetic Compatibility Directive)
2000/14 / EC (Acoustic Emission Directive for machines intended to operate outdoors)
IEC-EN 60974-1 Arc welding equipment - Welding power sources
IEC-EN 60974-10 Arc welding equipment - Electromagnetic compatibility (EMC) requirements



ISO 9001:2015 - Cert. 0192

WARRANTY

All devices are covered by the manufacturer's warranty.

Non-contractual document. Specification subject to change without notice.

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