

ENGINE DRIVEN WELDER

ZEN 500 YS

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

- D.C. Arc welding source
- Electronic regulation of welding current and arc force
- Specific welding programs for cellulose electrodes
- Double welding range
- Digital Ammeter/voltmeter welding
- A.C. generator, single-phase and three-phase also available while welding
- Engine control digital module
- Central lifting eye
- Wide access for easy maintenance
- Meets EC directives for noise and safety

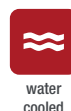
DEFINITION

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.



ENGINE 1500 RPM

4 STROKE, DIRECT INJECTION, NATURAL ASPIRATED	
Model	YANMAR 4TNV88
* Stand-By net power	18 kW (24.5 hp)
* PRP net power	16.4 kW (22.3 hp)
* COP net power	/
Cylinders / Displacement	4/ 2.19 lit
Bore / Stroke	88 / 90 (mm)
Compression ratio	20 : 1
BMEP (Brake Mean Effective Pressure : LTP - PRP)	/
Speed governor type	Mechanical
FUEL CONSUMPTION	
110 % (Stand-by power)	5 lit./h
100 % to PRP	4.5 lit./h
75 % to PRP	3.4 lit./h
50 % to PRP	2.6 lit./h
COOLING SYSTEM	
Total system cap. - only engine	7 lit. - 2.7 lit.
Fan air flow	50 m³/min.
LUBRICATION SYSTEM	
Total oil system capacity	/
Oil capacity in sump	3.4 lit. (min) - 7.4 lit. (max)
Oil consumption at full load	/

* Output powers according to ISO 3046-1

EXHAUST SYSTEM	
Maximum exhaust gas flow	/
Max. exhaust gas temp.	520 °C
Maximum back pressure	9.8 kPa (0.1 bar)
External diameter exhaust pipe	/
ELECTRICAL SYSTEM	
Starter motor power	1.4 kW
Battery charging alternator cap.	40 A
Cold start	- 15 °C
With cold start aid	/
AIR FILTER	
Combustion air flow	1.48 m³/min.
HEAT REJECTED AT FULL LOAD	
To exhaust system	/
To water and oil	/
Radiated to room	/
To charge cooler	/

WELDING AND GENERATION

C.C. WELDING (CONSTANT CURRENT)

SMAW (STICK)/ GTAW (TIG) CC MODE	
Current range	20A ÷ 500A
Type of regulation	Continue on 2 Step 20A ÷ 250A / 20A ÷ 500A
Duty cycle	500A - 60% / 450A - 100%
Open circuit voltage	62 Vdc (65 Vdc peak)

C.V. WELDING (CONSTANT VOLTAGE)

GMAW (MIG)/ FCAW (FLUX CORED) CV MODE	
Welding voltage	16V ÷ 40V
Type of regulation	continuous
Duty cycle	500A - 60% / 450A - 100%

SIMULTANEOUS LOAD CHARACTERISTIC

WELDING CURRENT	≥ 400A	300A	200A	100A	0A
POW. IN THREE PHASE 400V	0 kVA	4 kVA	8 kVA	16 kVA	16 kVA
POW. IN SINGLE PHASE 230V	0 kVA	3 kVA	7 kVA	10 kVA	10 kVA
POW. IN SINGLE PHASE 115V	0 kVA	3 kVA	5 kVA	5 kVA	5 kVA

GENERAL SPECIFICATIONS

Fuel tank capacity	60 l
Fuel consumption (welding 60%)	3.15 l/h
Running time (welding 60%)	19 h
IP protection degree	IP 23

Guaranteed acoustic power LwA (pressure LpA)	94.5 dB(A) (69.5 dB(A) @ 7 m)
Measured acoustic power LwA (pressure LpA)	96 dB(A) (71 dB(A) @ 7 m)
Max. ambient temperature	40 °C

A.C. GENERATION

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

Insulation class	H
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GENERAZIONE AUSILIARIA

OUTPUT 1	
Type of source	Trifase
Frequency	50 Hz
Apparent Power (Active Power)	16 kVA (12.8 kW)
Cos φ	0.8
Voltage	400 V
Current	23.1 A

OUTPUT 2	
Type of source	Monofase
Frequency	50 Hz
Apparent Power (Active Power)	10kVA / kW
Cos φ	0.8 / 1
Voltage	230 V
Current	43.5 A

OUTPUT 3	
Type of source	Monofase
Frequency	50 Hz
Apparent Power (Active Power)	5kVA / kW
Cos φ	1
Voltage	110 V
Current	45.5 A

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

CONTROL PANEL

ENGINE

- Controller RGK420SA
- Engine protector thermal circuit breaker: 1x30A
- Engine protector thermal circuit breaker: 1x5A
- Siren
- Emergency stop button

FEATURES CONTROLLER RGK420SA	
Operating Mode	• MAN - REMOTE
Display	• Graphic back-light LCD display • Buttons: START ▼ - ▲ • Key
Measures generator	• Voltage L1-L2 / L2-L3 / L3-L1 - N-L1/N-L2/N-L3 • Frequency Hz
Measures engine	• Fuel level • rpm meter • Hours meter • Battery voltage
Protections generator	• Overvoltage • Undervoltage • Overfrequency • Underfrequency
Protections engine	• Overspeed • Underspeed • High temperature shutdown • Low oil pressure shutdown • Low fuel level warning • Low fuel level shutdown • Battery voltage • Battery flat • Battery charge alternator failure • Arresto d'emergenza / Emergency stop • Mancato avviamento / Start failure • Mancato arresto / Stop failure • Manutenzione / Maintenance
Features	• Operator interface via symbols, codes and texts • Setpoints adjustable via controller buttons or PC • Remote Start and Stop • Configurable inputs and outputs • Operation temperature : -30°C - +70°C • NFC interface for wireless programming

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 (+) 600A
 - 1 x Saldatura (-) 600A

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

- Earth leakage circuit breaker
- Circuit breaker for 230V - 32A sockets
- Circuit breaker for 230V - 16A sockets
- Output sockets : 1x 400V 32A 3P+N+T IP67 CEE
 - 1x 230V 32A 2P+T IP67 CEE
 - 1x 230V 16A 2P+T IP67 CEE
 - N°2 output terminals 200A (for 48V)
- Earth terminal (PE)

WEIGHT - DIMENSIONS ACCESSORIES

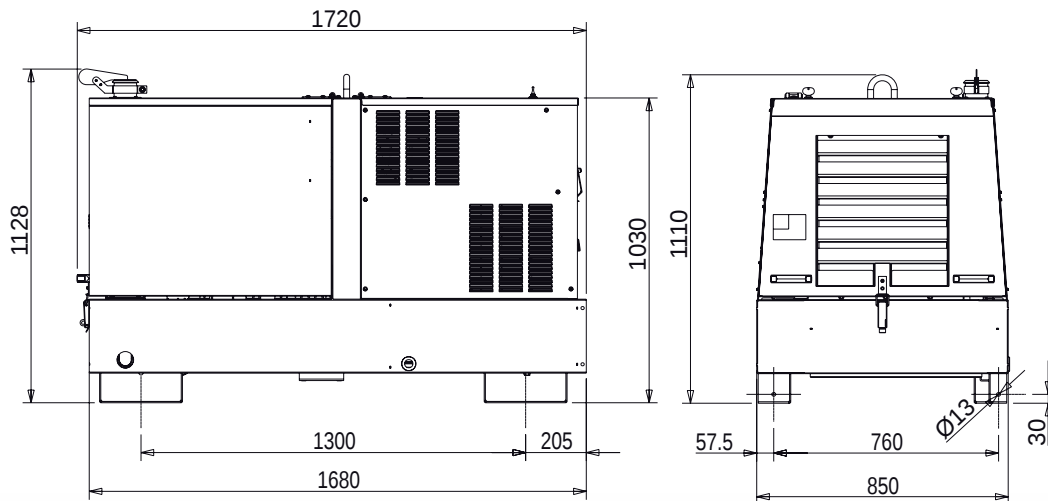


DRY WEIGHT:
• 720 Kg

The welding machine pictured may include optional accessories.



DIMENSION PICTURE



OPTIONS ON REQUEST

- Remote control RC2
- Remote control RC1 (with polarity change)
- Remote control extension cord (30m)
- WF4 wire-feeder
- Welding cables K500 (20+15 m, 50 mm²)
- Welding kit (mask gloves, etc.)
- Earthing kit
- Site tow CTL22
- Site tow trailer, 4 wheels, 2 steering wheels, ball joint
- Road tow running gear CTV1
- Locking Fuel Cap



VERSION ON REQUEST

- Version : 400V/230V
 - 1x400V 32A 3P+N+T IP67 CEE
 - 1x230V 32A 2P+T IP67 CEE
 - 1x230V 16A 2P+T IP67 CEE
 - 1x230V 16A 2P+T SCHUKO
- Version : 400V/230V/110V CTE
 - 1x400V 16A 3P+N+T IP67 CEE
 - 1x230V 32A 2P+T IP67 CEE
 - 1x110V 32A 2P+T CEE
 - 1x110V 16A 2P+T CEE



OPTIONS FACTORY INSTALLED

- Polarity change (only with EVO instrument panel)
- V.R.D. function
- Gauges - water temperature and oil pressure
- Spark arrestor

GENERAL INFORMATION

COMPLIANCE GENERATING SETS WITH EC DIRECTIVES AND STANDARDS

2006/42 / EC (Machines Directive)
 2014/35 / EU (Low Voltage Directive)
 2014/30 / EU (EMC Directive)
 2000/14 / EC (Directive Acoustic Emission for machines for use outdoors)
 ISO 8528 (Reciprocating internal combustion engine driven alternating current generating sets)



ISO 9001:2015 - Cert. 0192

WARRANTY

All devices are covered by the manufacturer's warranty.