

ENGINE DRIVEN WELDER

ZEN 400 YS

The images are for reference

WELDING PROCESS



SMAW Shielded Metal Arc welding (STICK)



Gas Tungsten Arc Welding (TIG)



FEATURES

- D.C. Arc welding source
- Electronic regulation of welding current and arc force
- Double welding range
- Welding control panel "EVO CONTROL"
- Arc Gouging socket
- A.C. generator, single-phase and three-phase also available while welding
- Engine control digital module
- VRD - Voltage reduction device (only with EVO INSTRUMENT)
- Central lifting eye
- Wide access for easy maintenance
- Meets EC directives for noise and safety

DEFINITIONS



Welding current regulation
Welding arc regulation
Welding scale selection



Welding current regulation
Welding arc regulation
Welding scale selection
Digital ammeter - welding current
Digital voltmeter - welding voltage
VRD Indicator



water cooled



diesel



electric starter

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	/
Cylinder / 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 % of PRP	4.5 lit./h
75 % of PRP	3.4 lit./h
50 % of PRP	2.6 lit./h
25% of PRP	
COOLING SYSTEM	
Total system cap. - only engine	50 m ³ /min
Fan air flow	
LUBRIFICATION SYSTEM	
Total oil system capacity	3.4 lit. (min) - 7.4 lit. (max)
Oil capacity in sump	/

Oil consumption at full load	
EXHAUST SYSTEM	
Maximum exhaust gas flow	520 °C
Max. exhaust gas temp.	9.8 kPa (0.1 bar)
Maximum back pressure	/
External diameter exhaust pipe	12 Vdc
ELECTRICAL SYSTEM	
Starter motor power	40 A
Battery charging alternator cap.	- 15 °C
Cold start	/
AIR FILTER	
Combustion air flow	1.48 m ³ /min
HEAT REJECTED AT FULL LOAD	
To exhaust system	/
To water and oil	/
Radiated to room	/
To charge cooler	/

* Maximum output (not overloadable) according to ISO 3046-1

WELDING AND GENERATION

C.C. WELDING

CONSTANT CURRENT	
Current range	20A ÷ 400A
Type of regulation	Continue on 2 Step: 20A ÷ 200A / 20A ÷ 400A
Duty cycle	400A - 60% / 350A - 100%
Open circuit voltage	72 Vcc (77.5 Vcc di picco)
Arc force control	Si

SIMULTANEOUS LOAD CHARACTERISTIC

WELDING CURRENT	≥ 250A	175A	125A	75A	0A
POW. IN THREE PHASE 400V	0 kVA	8.5 kVA	11 kVA	13 kVA	16 kVA
POW. IN SINGLE PHASE 230V	0 kVA	6 kVA	8.5 kVA	10 kVA	10 kVA
POW. IN SINGLE PHASE 115V	0 kVA	3.5 kVA	5 kVA	5 kVA	5 kVA

GENERAL SPECIFICATIONS

Fuel tank capacity	60 l	Guaranteed acoustic power LwA (pressure LpA)	94 dB(A) (69 dB(A) @ 7 m)
Fuel consumption (welding 60%)	3.15 l/h	Measured acoustic power LwA (pressure LpA)	95 dB(A) (70 dB(A) @ 7 m)
Running time (welding 60%)	19 h	Max. ambient temperature	40 °C
IP protection degree	IP 23		

A.C. GENERATION

ALTERNATOR ASYNCHRONOUS THREE-PHASE, SELF-EXCITED, SELF-REGULATED, BRUSHLESS	
Insulation class	H

AUXILIARY GENERATION

OUTPUT 1	
Type of source	3-phase
Frequency	50 Hz
Apparent Power + Active Power	16 kVA (12.8 kW)
Cos φ	0.8
Voltage	400 V
Current	23.1 A

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

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

OUTPUT 4	
Type of source	1-phase
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

- Continuous control of the welding current from 20A to 400A or 20A to 200A
- Welding range switch
- Continuous control of the arc force
- Connection of remote control with automatic "local / remote" switch at the insertion of the plug
- Welding output sockets:
 - 1x Welding (+) 600A
 - 1x Welding (-) 600A
 - 1x Only gouging (+) 600A
- EVO INSTRUMENT:
 - 2x Display - 4 Digit
 - Set the welding current
 - Current and voltage Measurement during the welding process
 - VRD ON/OFF switch (inside electrical box)

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

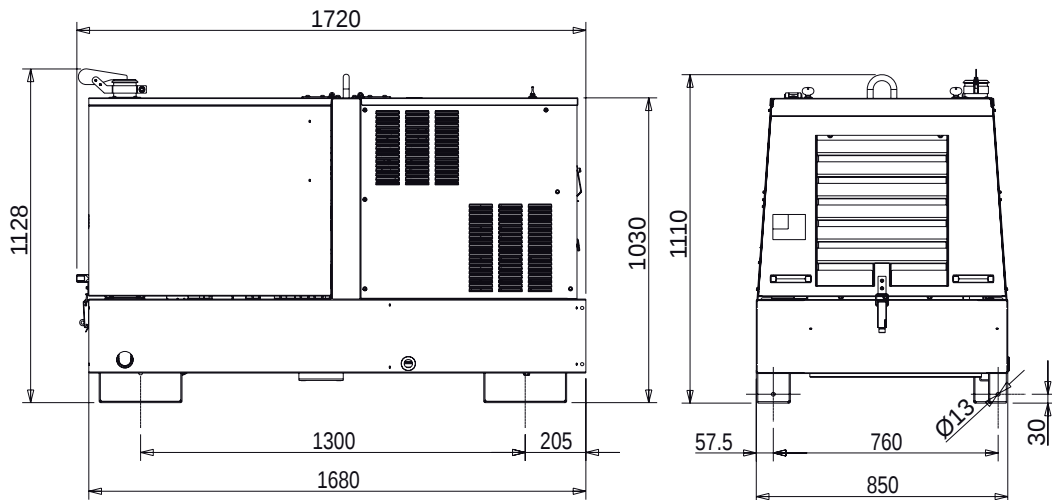


DRY WEIGHT:
• 750 Kg

The welding machine pictured may include optional accessories.



DIMENSION PICTURE



OPTIONS ON REQUEST

- Remote control RC2
- Remote control RCE (with EVO instrument panel)
- Remote control extension cord (30m)
- 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

- EVO Instrument panel
- Polarity change (only with EVO instrument panel)
- 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.