

ENGINE DRIVEN WELDER

ZEN 405 EVO MULTI4

The images are for reference

WELDING PROCESS

-  SMAW Shielded Metal Arc welding (STICK)
-  Gas Tungsten Arc Welding (TIG)
-  GMAW Gas Metal Arc Welding (MIG)
-  FCAW Flux Cored Arc Welding (FLUX CORED)
-  Arc Gouging SMAW (STICK)



CARATTERISTICHE

- Multi-process DC arc welder
- "EVO MULTI4" welding control panel
- Digital adjustment of the welding parameters
- Welding arc adjustment and multi-process parameters
- Ammeter and digital welding voltmeter with pre-setting of the welding parameters
- VRD function
- AC power generator three-phase and single-phase available during the welding phase
- Digital engine management and control module
- Bunded base
- Canopy with wide opening to allow easy maintenance (replacement of air, oil, fuel filters)
- Large capacity tank
- Fuel level sensor
- External plugs for oil and water drainage
- Emergency stop button
- Central lifting eye
- Compliant with EC / EU Directives



water cooled



diesel



electric starter

ENGINE 3000 RPM

4 STROKE, NATURAL ASPIRATED	
Model	KOHLER KDW1003
Stand-by net power	17.15 kW (23.3 hp)
PRP net power	15.6 kW (21.2 hp)
COP net power	/
Cylinder / Displacement	3 / 1028 cm ³ (1.028 lt.)
Bore / Stroke	75 / 77.6 (mm)
Compression ratio	22.8 :1
BMEP (Brake Mean Effective Pressure : LTP - PRP)	/
Speed governor type	Mechanical
FUEL CONSUMPTION	
110 % (Stand-by power)	5.4 lt./h
100 % of PRP	4.9 lt./h
75 % of PRP	3.7 lt./h
50 % of PRP	2.7 lt./h
COOLING SYSTEM	
Total system cap. - only engine	/
Fan air flow	93 m ³ /min.
LUBRIFICATION SYSTEM	
Total oil system capacity	2.6 lt.
Oil capacity in sump	2.5 lt
Oil consumption at full load	/

EXHAUST SYSTEM	
Maximum exhaust gas flow	3.2 m ³ /min.
Max. exhaust gas temp.	540 °C
Maximum back pressure	8000 kPa (0.08 bar)
External diameter exhaust pipe	/
ELECTRICAL SYSTEM	
Starter motor power	1.6 kW
Battery charging alternator cap.	40 A
Cold start	- 15 °C
With cold start device	/
AIR FILTER	
Combustion air flow	1.6 m ³ /min.
HEAT REJECTED AT FULL LOAD	
To exhaust system	/
To water and oil	/
Radiated to room	/
To charge cooler	/

WELDING

C.C. WELDING

CONSTANT CURRENT - COATED ELECTRODE SMAW (STICK)	
Current range	20A / 20.8V ÷ 400A / 20V
Type of regulation	Continue on 2 scale 20A ÷ 200A / 20A ÷ 400A
Duty cycle	330A @ 23.2V / 60% 300A @ 32V / 100%
Open circuit voltage	75 Vcc (79 Vcc peak)
Reduced no-load voltage with VRD	< 13 Vcc / Vdc
Arc force control	Yes

C.V. WELDING (CONSTANT VOLTAGE)

SMAW (MIG)	
Current range	40A @ 16 V - 400A @ 20V
Welding voltage	continue 15 V ÷ 45 V
Duty cycle	330A @ 30.5V / 60% (Mig) 300A @ 29V / 100% (Mig)

C.C. WELDING

CONSTANT CURRENT - TUNGSTEN ELECTRODE GTAW (TIG)	
Current range	20A / 10.8V ÷ 400A / 20V
Type of regulation	Continue on 2 scale 20A ÷ 200A / 20A ÷ 400A
Duty cycle	380A@ 25.2V / 35% 330A@ 23.2V / 60% 300A@ 22V / 100%
Open circuit voltage	75 Vcc (79 Vcc peak)
Reduced no-load voltage with VRD	< 13 Vcc / Vdc

SIMULTANEOUS LOAD CHARACTERISTIC

WELDING CURRENT	≥ 200 A	175 A	150 A	125 A	100 A	50 A
POW. IN THREE PHASE 400V cosφ 0.8	0 kVA	2.5 kVA	4 kVA	6 kVA	7.5 kVA	11 kVA
POW. IN SINGLE PHASE 230V cosφ 0.8	0 kVA	2.5 kVA	4 kVA	5 kVA	6 kVA	8 kVA

SIMULTANEOUS LOAD CHARACTERISTIC

WELDING CURRENT	≥ 200 A	175 A	150 A	125 A	100 A	50 A
POW. IN THREE PHASE 400V cosφ 1	0 kW	5 kW	8 kW	10 kW	11 kW	11 kW
POW. IN SINGLE PHASE 230V cosφ 1	0 kW	2.5 kW	4 kW	5 kW	6 kW	8 kW
POW. IN SINGLE PHASE 230V cosφ 1	0 kW	1.5 kW	2 kW	2.5 kW	3 kW	4 kW

GENERAL SPECIFICATIONS

Fuel tank capacity	38 l	Guaranteed acoustic power LwA (pressure LpA)	96 dB(A) (71 dB(A) @ 7 m)
Starter battery	12 Vdc -50Ah / 420A CCA(EN)	Measured acoustic power LwA (pressure LpA)	94.7 dB(A) (69.7 dB(A) @ 7 m)
Fuel consumption (welding 60%)	3.3 l/h	Max. ambient temperature	40 °C
Running time (welding 60%)	11.5 h		
IP protection degree	IP 23		

A.C. GENERATION

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

GENERATION AND CONTROL PANEL

AUXILIARY GENERATION

OUTPUT 1	
Type of source	Three-phase
Frequency	50Hz
Power kVA (Power kW) Max	14 kVA (11.2 kW)
Cos φ	0.8
Voltage	400V
Current	20.2 A

OUTPUT 3	
Type of source	Single-Phase
Frequency	50Hz
Power kVA (Power kW) Max	4 kVA/kW
Cos φ	0.8/1
Voltage	110V CTE
Current	36.4A

OUTPUT 2	
Type of source	Single-Phase
Frequency	50Hz
Power kVA (Power kW) Max	8 kVA/kW
Cos φ	0.8/1
Voltage	230V
Current	34.8 A

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

ENGINE CONTROL PANEL

- Controller RGK420SA
- Thermal circuit breaker for motor protection: 1x30A
- Thermal circuit breaker for motor protection: 1x5A
- Acoustic signal
- Emergency stop button



RGK420SA CONTROLLER FEATURES	
Operating modes	• MAN - REMOTE
Display	• Backlit display, LCD • Buttons: START ▼ - ▲ • Key
Generator measurements	• Voltage L1-L2 / L2-L3 / L3-L1 - N-L1/N-L2/N-L3 • Frequency Hz
Engine measurements	• Fuel level • Engine revs • Hour meter • Battery voltage
Generator protections	• Overvoltage • Under tension • Overfrequency • Underfrequency
Motor protections	• Overspeed • Low speed • High temperature • Low oil pressure • Low fuel pre-alarm • Low fuel level • Battery voltage • Inefficient battery • Battery charge alternator fault • Emergency stop • Failure to start • Failure to stop • Maintenance
Features	• Operator interface with symbols, codes and texts • Panel or PC programming • External start and stop • Programmable inputs and outputs • Operating temperature: -30 °C - + 70 °C • NFC interface for wireless programming

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

- Differential switch (400V / 230V)
- Magnetothermic switch for 230V sockets
- Thermal cut-offs for socket protection: 1x 16A for 230V 16A 2P + T CEE socket
- Output sockets: 1x 400V 32A 3P+N+T CEE
 - 1x 230V 32A 2P+T CEE
 - 1x 230V 16A 2P+T CEE
 - N ° 2 200A output terminals (for 48V)
- Earth terminal (PE)

GENERATION (VERS. 400V / 230V / 110V)

- Differential switch (400V / 230V)
- Magnetothermic switch for 230V sockets
- Magnetothermic switch for 110V sockets
- Thermal cut-offs for protection 1x 16A sockets for 110V 16A 2P + T CEE socket
- Output sockets: 1x 400V 32A 3P+N+T CEE
 - 1x 230V 32A 2P+T CEE
 - 1x 110V 32A 2P+T CEE
 - 1x 110V 16A 2P+T CEE
- Earth terminal (PE)

GENERATION (VERS. AUS)

- Differential switch (400V / 230V)
- Magnetothermic switch for 230V sockets
- Output sockets: 1x 400V 32A 3P+N+T IP67 AUS
 - 1x 230V 32A 2P+T IP67 AUS
 - 1x 230V 15A 2P+T IP67 AUS
- Earth terminal (PE)

CONTROL PANEL

WELDING

- Welding output sockets: 1x Welding (+) 400A
1x Welding (-) 400A
- Remote control connector. Automatic switching upon insertion of the connector.
- 14-pole connector for connecting the wire feeder or the PL 400 Box. External polarity inversion
- VRD ON / OFF switch

CONTROL PANEL MULTI4

MULTI4 CONTROLLER FEATURES	
Rotary switch for welding process	• Stick (SMAW) • Stick contact • Mig/Flux Cored (GMAW) • Mig/Flux Cored contact • Tig lift arc (GTAW) • Tig pulse
Encoder for current - voltage welding control	
Multifunctional encoder	• Arc force control (Stick) • Hot start voltage setting (Mig) • Turn-off time arc control (Tig scratch) • Switching frequency setting (Tig pulsed)
2x Display (4 Digit)	• Current and voltage during the welding process • DISPLAY 1: Set the welding current and the voltage • DISPLAY 2: Settings controlled by the multifunction encoder
LED VRD	• Show if VRD is enabled
LED A/V	• Kind of value shown on display 1
LED % - s - Hz - V - A	• Kind of value shown on display 2
Button SET	• Shows and saves the program
BUTTON WS1 –WS2 –WS3	• Recall a welding program saved previously, up to 3 programs can be stored for each welding process
BUTTON WS3	• Access to the secondary parameters for welding
LED Button	• Signal for storing and program recall



WEIGHT - DIMENSIONS ACCESSORIES

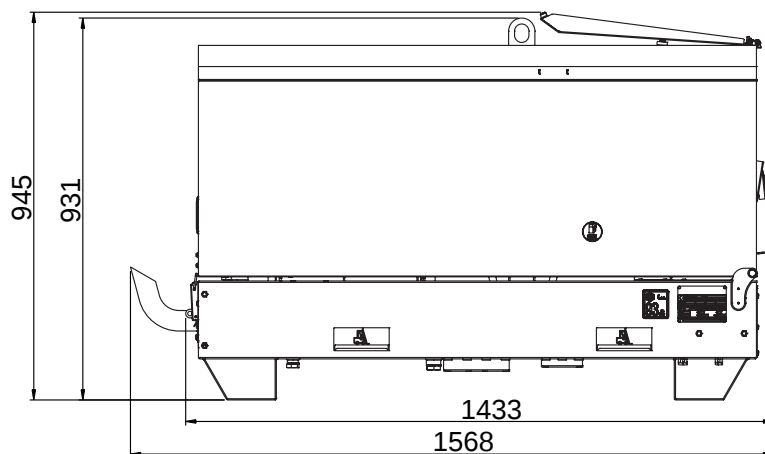
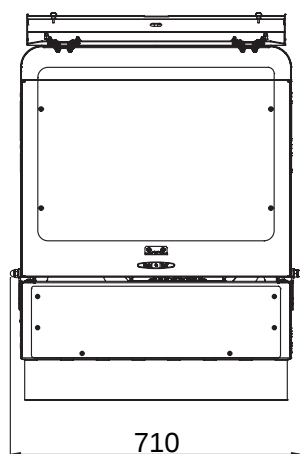


DRY WEIGHT:
• 455 Kg

The welding machine pictured may include optional accessories.



DIMENSION PICTURE (mm)



OPTIONS ON REQUEST

- Remote control: RCE
- Remote control RCE PL - (Remote control for polarity inversion)
- Remote control extension (30m)
- Wirefeeder WF4
- Box PL 400 - External Polarity Reversal - max. 400A
- Welding kit (mask, gloves, etc.)
- K500 welding cables (20 + 15 m, 50 mm²)
- Site tow wheels CTL255
- Road trailer CTV4
- Earthing kit



AVAILABLE VERSION

C1KS1021BP	400/230/110 - EVO MULTI4 • Indicatore temperatura acqua • Indicatore pressione olio • Staccabatteria
C1KS1061BP	400/230/48 - EVO MULTI4 • Indicatore temperatura acqua • Indicatore pressione olio • Staccabatteria
C1KS1041BP	400/230 - EVO MULTI4 (AUSTRALIA) • Indicatore temperatura acqua • Indicatore pressione olio • Staccabatteria

GENERAL INFORMATION

EC Directives and Standards Compliance
2006/42 / EC (Machinery 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.