

ENGINE DRIVEN WELDER TS 405 EVO

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
- Welding control panel "EVO CONTROL"
- A.C. generator, single-phase and three-phase also available while welding
- Engine control digital module
- Bunded base
- Base plate with forklift pockets
- Canopy with large opening to allow easy maintenance (replacement of air, oil, fuel filters)
- Large fuel tank
- Fuel level sensor
- External plugs for oil and water drainage
- Emergency stop button
- Central lifting eye
- Wide access for easy maintenance
- Meets EC/UE directives



water cooled



diesel



electric starter

DEFINITIONS

EVO CONTROL



Welding current regulation
Welding arc regulation
Welding scale selection

EVO INSTRUMENT



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

ENGINE 3000 RPM

4 STROKE, NATURAL ASPIRATED	
Model	KOHLER KDW1003
Stand-By net power	17.2 kW (23.4 hp)
PRP net power	15.5 kW (21.1 hp)
COP net power	/
Cylinders / 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 % to PRP	4.9 lt./h
75 % to PRP	3.7 lt./h
50 % to PRP	2.7 lt./h
COOLING SYSTEM	
Total system cap. - only engine	- / 1.3l
Fan air flow	93 m ³ /min.
LUBRICATION SYSTEM	
Total oil system capacity	/
Oil capacity in sump	2.4 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	8 kPa (0.08 bar)
External diameter exhaust pipe	/
ELECTRICAL SYSTEM	
Starter motor power	1.6 kW
Battery charging alternator cap.	40 A
Cold start	- 10 °C
With cold start aid	/
AIR FILTER	
Combustion air flow	1.54 m ³ /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 COATED ELECTRODE (STICK)	
Current range	20A / 20.8V ÷ 400A / 20V
Type of regulation	Continue on 2 step 20A ÷ 200A / 20A ÷ 400A
Duty cycle	330A @ 33.2V / 60% 300A @ 32V / 100%
Open circuit voltage	75 Vcc (79 Vcc to peak)
Reduced open circuit voltage with VRD	< 13 Vcc / Vdc
Arc force control	Yes

C.C. WELDING

CONSTANT CURRENT GTAW TUNGSTEN ELECTRODE (TIG)	
Current range	20A / 10.8V ÷ 400A / 20V
Type of regulation	Continue on 2 step 20A ÷ 200A / 20A ÷ 400A
Duty cycle	380A @ 25.2V / 35% 330A @ 23.2V / 60% 300A @ 22V / 100%
Open circuit voltage	75 Vcc (79 Vcc to peak)
Reduced open circuit 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 110V cosφ 1	0 kW	1.5 kW	kW	2.5 kW	3 kW	4 kW

ALTERNATOR

Fuel tank capacity	38 l
Starter battery	12 Vdc -50Ah / 420A CCA(EN)
Fuel consumption (welding 60%)	3.3 l/h
Running time (welding 60%)	11.5 h
IP protection degree	IP 23

Guaranteed acoustic power LwA (pressure LpA)	96 dB(A) (71 dB(A) @ 7 m)
Measured acoustic power LwA (pressure LpA)	94.7 dB(A) (69.7 dB(A) @ 7 m)
Max. ambient temperature	40 °C

A.C. GENERATION

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

Insulation class	H
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AUXILIARY GENERATION

OUTPUT 1	
Type of source	3-phase
Frequency	50Hz
Power kVA (Power kW) Max	14 kVA (11.2 kW)
Cos φ	0.8
Voltage	400V
Current	20.2 A

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

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

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

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	<ul style="list-style-type: none"> • MAN - REMOTE
Display	<ul style="list-style-type: none"> • Graphic back-light LCD display • Buttons: START ▼ - ▲ • Key
Measures generator	<ul style="list-style-type: none"> • Voltage L1-L2 / L2-L3 / L3-L1 - N-L1/N-L2/N-L3 • Frequency Hz
Measures engine	<ul style="list-style-type: none"> • Fuel level • rpm meter • Hours meter • Battery voltage
Protections generator	<ul style="list-style-type: none"> • Overvoltage • Undervoltage • Overfrequency • Underfrequency
Protections engine	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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

GENERATION (VERS. AUS)

- ELCB-GFI (Ground Fault Interruptor) (400V/230V)
- Circuit breaker 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)

WELDING

- **EVO CONTROL:**
 - Continuous control of the welding current
 - 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 (+) 400A
 1x Welding (-) 400A



- **EVO INSTRUMENT:**
 - Continuous control of the welding current
 - 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 (+) 400A
 1x Welding (-) 400A
 - 2x Display - 4 Digit
 - Set the welding current
 - Current and voltage Measurement during the welding process
 - VRD ON/OFF switch (only with EVO Instrument panel)
 - Connector for connection to Box PL400



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

- ELCB-GFI (Ground Fault Interruptor) (400V/230V)
- Circuit breaker for 230V sockets
- Thermal circuit breakers for sockets: 1x 16A for socket 230V 16A 2P+T CEE
- Output sockets : 1x 400V 32A 3P+N+T CEE
 1x 230V 32A 2P+T CEE
 1x 230V 16A 2P+T CEE
 N°2 output terminals 200A (for 48V)
- Earth terminal (PE)

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

- ELCB-GFI (Ground Fault Interruptor) (400V/230V)
- Circuit breaker for 230V sockets
- Circuit breaker for 110V sockets
- Thermal circuit breakers for sockets: 1x 16A for socket 110V 16A 2P+T CEE
- 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)

WEIGHT - DIMENSIONS ACCESSORIES

TS 405 EVO

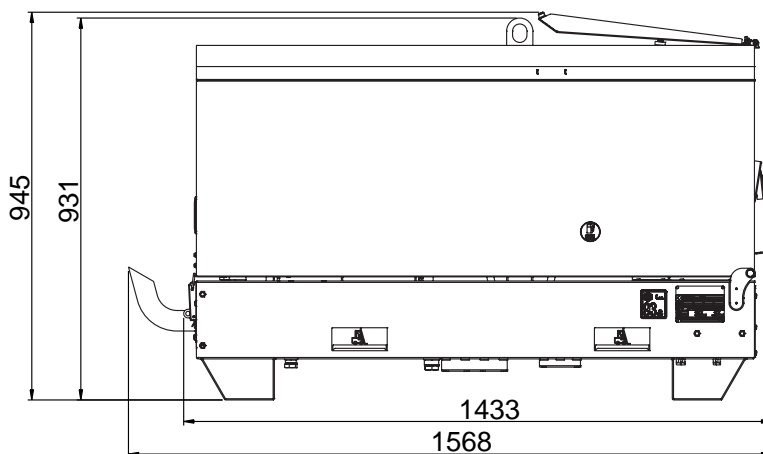
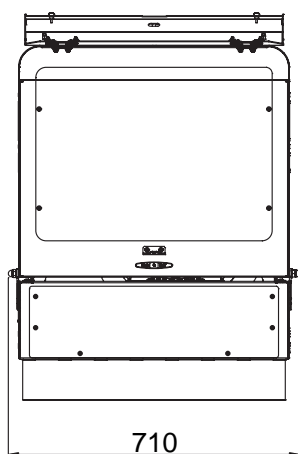


DRY WEIGHT:
• 455 Kg

The welding machine pictured may include optional accessories.



DIMENSION PICTURE



OPTIONS ON REQUEST

- Remote control RC2
- Remote control RCE PL - (Remote control for polarity change)
- Remote control extension cord (30m)
- Box PL 400 - External polarity change - max. 400A (only with EVO INSTRUMENT panel)
- Welding cables K500 (20+15 m, 50 mm²)
- Welding kit (mask gloves, etc.)
- Site tow CTL255
- Road tow running gear CTV4
- Earthing kit



AVAILABLE VERSION

C1KS1020	400/230/110 - EVO CONTROL
C1KS1060	400/230/48 - EVO CONTROL
C1KS1020BKP	400/230/110 - EVO INSTRUMENT <ul style="list-style-type: none"> • Gauges - water temperature and oil pressure • Oil pressure Indicator • Main battery switch
C1KS1060BKP	400/230/48 - EVO INSTRUMENT <ul style="list-style-type: none"> • Gauges - water temperature and oil pressure • Oil pressure Indicator • Main battery switch
C1KS1040BKP	400/230 - EVO INSTRUMENT (AUSTRALIA) <ul style="list-style-type: none"> • Gauges - water temperature and oil pressure • Oil pressure Indicator • Main battery switch

GENERAL INFORMATIONS

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.

Specifications subject to change without notice. For further information please contact the sales department.

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