

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
- Bundled 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 |
|------------------|---|

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

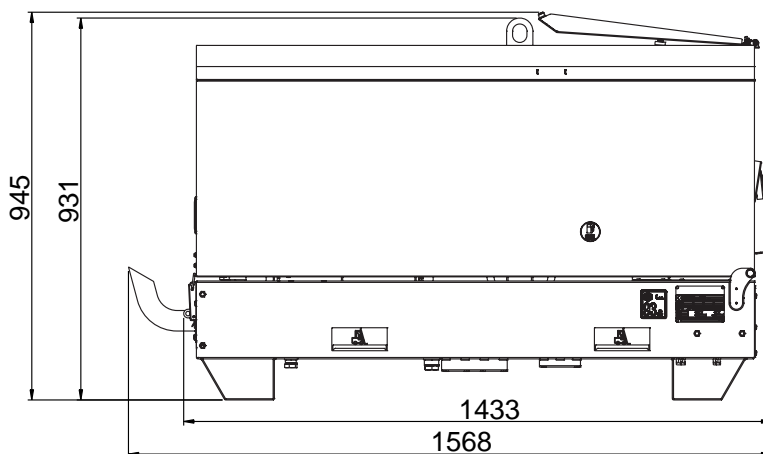
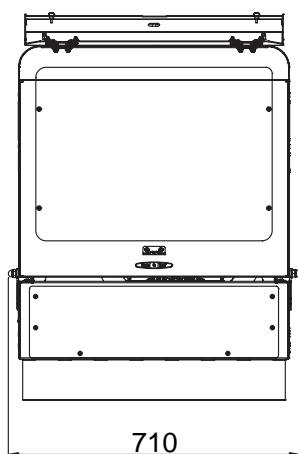


DRY WEIGHT:
• 455 Kg

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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